Subscriptions for 1901 are now due.

VOL. IX.] JANUARY, 1901. [No. 97.

THE ORCHID REVIEW:

An Illustrated Monthly Journal,

DEVOTED TO ORCHIDOLOGY.

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*** We much regret an unavoidable delay in the issue of the present number.

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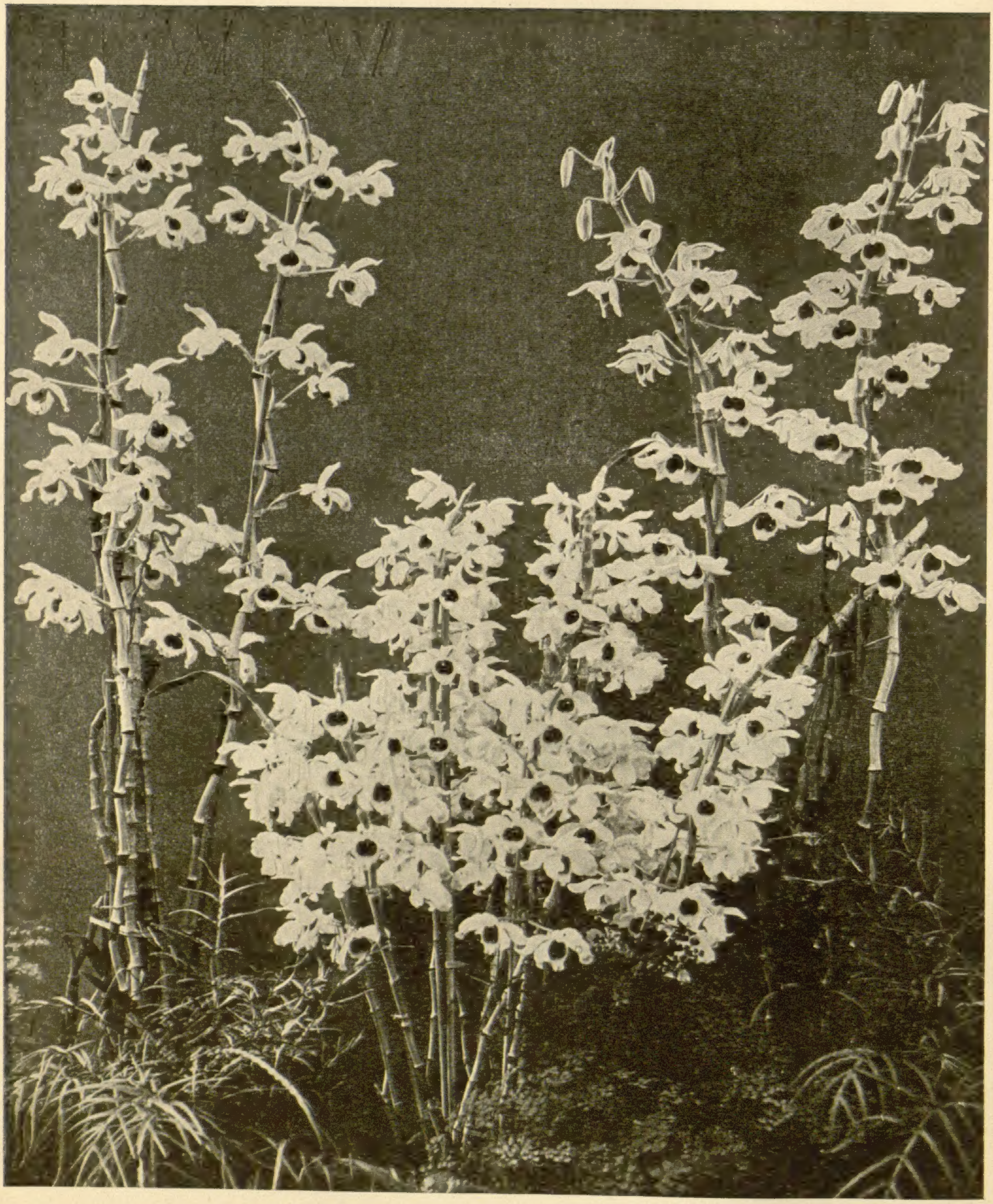


DENDROBIUM WARDIANUM.

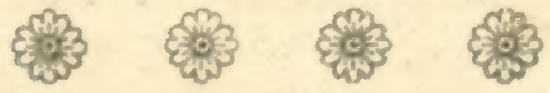
See page 357.

THE

ORCHID REVIEW

In Illustrated Monthly Journal

DEVOTED TO ORCHIDOLOGY



VOLUME IX

1901

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"The 'parasites,' starred with ten-thousand blossoms."

'Mark how warm they blush, how bright they glow!
What regal vestments can with them compare,
What king so shining, or what queen so fair?"

"This beauty is for me ——
A thing to love and learn."

THE ORCHID REVIEW.

VOL. IX.] *JANUARY*, 1901. [No. 97.

TO OUR READERS.

EIGHT years ago the ORCHID REVIEW was founded, as a monthly repertorium of information likely to prove useful and interesting to Orchid growers. The undertaking has been warmly supported from all quarters, at home and abroad, and the record of the work has been one of steady progress from the commencement. To-day we are able to make an alteration which, we believe, will materially enhance its popularity and usefulness.

With the commencement of the new year—we might say the new century—the price of the work will be reduced to sixpence monthly, with the small additional sum necessary to defray the cost of postage. The alteration involves no other change in the work; our policy in the future, as in the past, will be to make the work as valuable as possible to all lovers of this beautiful group of plants, and to keep pace with the growing needs of the times. There is no need to repeat our original programme—it is well known, and we have been assured over and over again that the existing volumes form a mine of valuable information. We thank our readers for their kind co-operation and assistance in the past, and appeal with confidence for its continuance in the future. In particular we invite items of information of general interest and records of the personal experiences of hybridists and cultivators, which are always welcomed and help to enlarge the sphere of usefulness of the work. Portraits of new and striking Orchids suitable for reproduction in our pages are also much appreciated; and we may add that *strong* prints, on smooth albuminised paper, and with a contrasted background, are the most suitable for reproduction by the half-tone process.

And, in conclusion, we take this opportunity of wishing all our readers

A HAPPY NEW YEAR.

A CENTURY OF ORCHID GROWING.

On the threshold of a new century we are tempted to glance back at the achievements of the past one. To write its history would be almost to write the history of Orchid cultivation, so few were the species to be found in gardens a hundred years ago. A number of beautiful kinds had been introduced, though the majority barely managed to produce flowers before making their exit. At the commencement of the nineteenth century, Orchid culture, as we now know it, was practically non-existent — no peat, no sphagnum moss, no basket culture, no heating by means of hot water. One can scarcely speak of it as in its infancy, though the germ had been laid. Orchid-growing in the eighteenth century forms an interesting chapter—it may be found at pages 44-48 of our second volume—and it is the culture with which our era commences, but it is not the culture of to-day.

Incredible as it may seem, the year 1800 seems to have witnessed the advent of the first East Indian Orchids, when, thanks to the exertions of Sir Joseph Banks, three species of Geodorum and Acampe multiflora were introduced, together with Aërides odoratum from Cochin China. For several years afterwards the annual additions to the list were very moderate. The early years of the century witnessed a most praiseworthy attempt to overcome difficulties in Orchid culture, which seemed well-nigh insuperable, owing to a very imperfect conception of their requirements, for we find them grown in tanner's bark, decayed wood, hazel loam, sawdust, and what-not, in the hottest of stoves, and when they failed—as was not unnatural—the cause was often attributed to their supposed parasitic nature, and their culture was considered hopeless, for it appeared "a vain attempt to find substitutes for the various trees each species might affect within the limits of a hothouse." It was only by degrees that these pernicious doctrines were dispelled and the foundations of a rational system of treatment were laid.

In 1817 we find the basket system of treatment first adopted by Sir Joseph Banks, though the light wicker-work then used has been discarded for something more substantial. Cattleya labiata first appeared in 1818, and Cypripedium insigne at about the same period. Disa grandiflora and Oncidium Papilio also put in an appearance in 1825. At this time we find that the Horticultural Society had by singular exertion succeeded "in forming such a collection of this tribe of curious plants as was never seen in Europe before," consisting of about 180 tropical kinds. Messrs. Loddiges had also in their stoves at Hackney about eighty-four kinds, belonging to some thirty genera.

The second quarter of the nineteenth century witnessed an enormous development of Orchid culture, and it was not until this period that the foundation of our present system of treatment was laid. The Horticultural

Society took a prominent part in sending abroad collectors in search of novelties, and their introductions, of course, included large numbers of Orchids, which unfortunately seldom survived long the treatment to which they were subjected. Lindley, who greatly wished to remedy this, undertook some inquiries into the conditions under which these plants grew in a wild state, and embodied his results in a paper read before the Society in May, 1830, in which he recommended heat and plenty of humidity as the two most essential conditions (*Trans. Hort. Soc.*, ser. 2, i., pp. 42-50). The altitude at which many of the plants grow was unfortunately not taken into consideration—indeed the facts were not then known—so that Lindley's recommendations failed to effect the improvement which he confidently anticipated. A remark, however, that "the time is not distant when the beauty cf the Dendrobiums and Bulbophyllums of India, of the Oncidiums of the West Indies, of the Aërides of China, and of the Epidendrums of Peru, will add a charm to every hothouse," was prophetic.

Importations were soon pouring into the country, but as Messrs. Veitch remark, "too often only to tantalize the purchasers with a transitory sight of their beautiful flowers and curious forms, and then to languish and die," in the hot, steamy, unventilated stoves to which they were consigned on their arrival, " to the temperatures of which they were as great strangers as to our severest winter frosts." Protests soon followed against the " folly of subjecting Orchids which naturally grew in a temperate climate to the stifling heat of an Indian jungle." Allan Cunningham from Australia, as early as 1835, followed by Skinner, who had collected Orchids on the Cordilleras of Guatemala, Gibson, in the Khasia hills, Gardner, on the Organ mountains, William Lobb, in the Peruvian Andes, and Mottley, on the mountains of Java, all pointed out how unnatural the existing method of treatment was. Meantime a few intelligent gardeners at home perceived the necessity of some radical change of treatment, and one of the earliest was Joseph Cooper, gardener to Earl Fitzwilliam, at Wentworth, who adopted a lower mean temperature and admitted fresh air into the houses. The effect of this treatment may be seen in a remark made by Dr. William Hooker in 1835:—" I must confess that the sight of this collection, whether the vigorous growth and beauty of the foliage, or the number of splendid species blossoming at one time be considered, far exceeded my warmest anticipations."

The Duke of Devonshire, stimulated, it is said, by the sight of the remarkable Oncidium Papilio, began to form a collection in 1833, and three years later it contained upwards of three hundred species. In 1837 he sent Gibson on a mission to the Khasia Hills, which resulted in the introduction of a large number of novelties, and as the collection was continually being increased from other sources, it became in ten years the largest private col-

lection in the country. It was under the charge of Joseph Paxton, who gradually introduced a more rational method of treatment, and with most beneficial results. Lindley visited Chatsworth in 1838, and thus recorded his impressions:—"The success with which epiphytes are cultivated by Mr. Paxton is wonderful, and the climate in which this is effected, instead of being so hot and damp that the plants can only be seen with as much peril as if one had to visit them in an Indian Jungle, is as mild and pleasant as Maderia." In 1834 Paxton commenced the publication of his *Magazine of Botany*, and in the earlier volumes may be traced the steps by which he gradually emancipated himself from the prevailing errors. His teachings and example, it is hardly necessary to add, were not lost on his contemporaries, and the growing success gradually led to a great extension in Orchid culture.

Our third period may have said to have opened with a series of articles in the *Gardeners' Chronicle* for 1851, entitled "Orchids for the Million," by Mr. B. S. Williams, then gardener to Mr. Charles B. Warner, at Hoddesdon,which ultimately developed into the well-known *Orchid Growers' Manual*, a work whose influence on Orchid Culture may be estimated by the fact that it has since gone through seven editions.

The second great event of this third period was the inauguration of the process of hybridization, by Mr. Dominy, in Messrs. James Veitch & Sons' Nursery. In October, 1856, Dominy startled the Orchidic world by flowering his first hybrid Orchid, Calanthe × Dominii, which drew from Dr. Lindley the weighty remark, "Why, you will drive the botanists mad." The seed had been sown in 1854. Dominy began to hybridize Orchids at Exeter in 1853, and continued the work for upwards of ten years, during which time he raised a series of twenty-five distinct hybrids. The influence of his work upon the development of Orchid culture can scarcely be estimated; suffice it to say that to-day almost everybody raises hybrid Orchids, and that it is to the hybridist rather than to the importer that we now look for a succession of novelties. The history of the question has been exhaustively treated in these pages, and here we must leave it.

One other great event of this period must be mentioned, namely the introduction of the numerous Odontoglossums and other cool Orchids from the great Andine chain. A few had already been introduced, but as rapidly lost. Now, however, commenced the era of the cultivation of "Cool Orchids." The knowledge of their existence had gradually been accumulating, and a determined effort was now made to introduce them alive. Accordingly in 1863 we find Weir, Blunt, and Schlim all starting for New Granada in search of them. They travelled respectively for the Horticultural Society, Messrs. Hugh Low and Co., and Mr. Linden, and it is recorded as a curious coincidence that the three collectors named all

found themselves sailing for the same destination, in the same steamer, and on the same errand. How well they, and others who followed them, succeeded is matter for history. The close of the period we are speaking of witnessed a great development in Cool Orchid culture.

The commencement of the fourth quarter of the century found the country in the midst of the boom in Cool Orchid culture. The index to the *Gardeners' Chronicle* for 1876 contains under the heading "New Garden Plants described" notices of seven Masdevallias, and in the preceding year of no less than eighteen; while the record in all other departments during this and succeeding years was one of rapid progress. Of the events of this period we have scarcely time to speak, and it is the less necessary seeing that many of them are within the memory of living Orchidists. Suffice it to say that it has been a period of remarkable development in every branch of Orchid culture. Among its more important landmarks may be mentioned the establishment of the *Orchid Album* in 1882, of the *Lindenia* in 1885, the great Orchid Conference held in London in the same year, with its continuation at Liverpool in 1886, the commencement of the *Reichenbachia* at about the latter period, of Veitch's *Manual of Orchidaceous Plants* in 1887, the formation of an Orchid Committee by the Royal Horticultural Society in 1889, the establishment of the *Orchid Review* in 1893, and the formation of the Manchester and North of England Orchid Society in 1897, all of which testify to the growing popularity of this beautiful group of plants. The period was also marked by the appearance of a constant stream of imported novelties, and towards its close by the rapid succession of hybrids raised at home.

So much for the nineteenth century; may the cult increase and multiply in like manner during the twentieth!

FALSE HYBRIDS.

We have apparently another addition to make to the list of "False Hybrids"—those curious aberrations in which the mother parent alone is reproduced, though the hybridisation was carried out with due care. A flower and leaf sent from the collection of O. O. Wrigley, Esq., Bridge Hall, Bury, are apparently forms of Paphiopedilum tonsum pure and simple, but Mr. Wrigley states that his register shows it to be the result of fertilising P. tonsum with the pollen of P. niveum, the operation having taken place in February, 1897. The seedling seems to have flowered rather quickly, and we fail to find any trace of the influence of P. niveum. It seems to afford a parallel to the case of P. barbatum × niveum, recorded at page 201 of our last volume, in which the influence of the pollen parent was not apparent.

DIES ORCHIDIANÆ

At last! the locality where Swainson collected the fine old Cattleya labiata over eighty years ago has been discovered, as I learn by the very interesting article at page 362 of your last issue. It is certainly a remarkable circumstance that the much desired information should have been on record all the time, and some of the collectors must have read the article with mixed feelings. We have been told that probably there is not one of the large dealers, in England or on the continent, dead or living, who has not spent money—a large sum too—in searching for the plant; that collectors have struck a path through almost every province of Brazil, and also searched the neighbouring countries of Venezuela and Colombia, but without result, until about ten years ago, when, quite accidently someone stumbled across it at Pernambuco — where, *mirabile dictu*, Swainson originally discovered it. I wonder what that information would have been worth twenty years ago.

It is interesting to find that the parentage of another natural hybrid has been proved. The appearance of Lælio-cattleya × Gottoiana some ten years ago came as a surprise, and it is a curious circumstance that it should have led to the discovery of the habitat of Cattleya Warneri, which up till then was credited to a quite different locality. The hybrid first appeared in an importation of Lælia tenebrosa, when its origin seemed inexplicable, and afterwards in an importation of Cattleya Warneri, and the circumstance of its being intermediate between the two indicated pretty clearly its origin. Mr. Douglas soon afterwards crossed the two species together, and the resulting seedlings agree so far with the wild type as to place the matter beyond dispute. The list of natural hybrids with proved parentage seems to be growing steadily, and has received several additions of late.

There is another matter which points to the rapid progress which hybridization is making amongst us, and that is the constant stream of novelties which appear—so numerous that some of them scarcely receive notice, and make it almost impossible to keep in touch with all that is going on. It is suggested by a correspondent that the compilation of an Orchid Stud Book would be useful to Orchidists in the future. Such a work, however, would involve several difficulties, and one of the greatest would be to know what to include. It is urged that, as the numbers increase, we must have a process of rigid selection, and the question is, on whom the responsibility of such selection should rest. It is proposed to limit it, in the first place, to those hybrids which have received the award of a First-class Certificate at the meetings of the Royal Horticultural Society and the Manchester

Orchid Society, which would lay the responsibility of selection with two Committees of the best Orchid experts in the country. Theoretically, no doubt, this would be an excellent method of selection, but it involves several difficulties, though, perhaps, not more than any other system. In the first place, the standard of excellence has varied greatly from time to time, and some of the awards which were made in the past would not be made to-day. (By the way, is this the reason why I frequently see in some of the Press reports that such and such a previous award was "confirmed"?) Again, it may be said that the two Societies make their awards on a somewhat different system, though, for the present purpose, the detail is unimportant. Lastly, it may be remarked that some meritorious hybrids do not come before these Committees at all.

It is estimated that about three hundred hybrids have now received the award of a First-class Certificate, but whether this includes hybrids having different names but identical parentage, I do not know. If so, the number would have to be reduced somewhat, for all such should be treated as forms of one, and come under a single entry, or the exigencies of an alphabetical arrangement—if such were adopted—would place some of them far apart.

The admission of those to which an Award of Merit has been given would extend the list enormously, but some of them are worthy of admission, and a few are scarcely inferior to others which have gained the higher award. Perhaps in practice it would be found desirable to include the best of these, in which case we should have to trust to the discretion of the compiler. But perhaps some of these difficulties would vanish as the work proceeded. In any case it would be a means of preserving the pedigrees of the best hybrids, and would be of considerable value to those who are interested in raising these beautiful plants.

Probably the compiler of the Stud Book will encounter some difficulties under the heading of Nomenclature. Some time ago the hybrid between Paphiopedilum Charlesworthii and P. insigne was described and figured in these pages under the name of P. × Hitchinsiæ; then it was discovered that it had also been named Cypripedium × Elmireanum. Now I see at page 373 of the last issue of this work records of C. × bingleyense and C. × Zethus with the same parentage. But we have also a C. × bingleyense derived from Charlesworthii and Harrisianum (*O.R.* vii., pp. 287, 291), which suggests some unfortunate confusion in the records—a matter which, in practice, it seems impossible to avoid. Some day, perhaps, some very fine hybrid with the same parentage will receive a First-class Certificate under a totally new name, which may land the author

of the Stud Book in a difficulty, unless he is prepared to ignore the priority question, and I fancy that there are some analogous cases already on record if I had time to look them up.

I have recently received several letters and memoranda on this nomenclature question, and have also seen some remarks in print, on which I may have to make a few comments, but not on the present occasion. There seems to be a growing concensus of opinion that some of the confusion which we all deplore might be avoided if only some concerted measures were taken to prevent it. Here is an opportunity for some practicable suggestions.

ARGUS.

THE CATTLEYA FLY.

I HAVE to-day had a new experience of the Cattleya fly. I enclose some of this year's bulbs of C. labiata. You will notice the hole made by the escaped fly is half-way up the bulb. Hitherto I have never found the fly grub anywhere but at the base of the bulb. One of the enclosed bulbs I have left unopened, but the chances are that the fly is out. In the small bulb you will find some small flies just ready to come out. This plague seems to have been introduced with a batch of imported labiata. I am going to fumigate extensively twice a week for some weeks, and that should prevent any spread of the pest.

J. WILSON POTTER.

[The examples sent seem to suggest that if the young pseudobulbs have made some progress, and assumed their characteristic shape, before the eggs of the fly are laid, the larvæ may develop without showing much evidence of their presence, until they reach maturity and bite a hole by which to escape. This is what has happened in the present case, for there are several holes by which the flies have escaped, and we fear they will be heard of again later on. A section of the bulb shows that part of the tissue has been eaten, and the remainder is discoloured and unhealthy. If the shoots are very young when the eggs are laid, their growth is arrested, which circumstance may lead to the detection of the enemy before the fly is mature. The small growth sent contains two or three active, living flies, just on the point of escaping, and ready to lay more eggs and continue the mischief. They are exactly identical with the one figured at page 241 of our last volume from a photograph sent by Dr. Hoisholt. We fear that new importations of Cattleya labiata must be regarded with suspicion, as the pest is frequently introduced with them. We hope that this experience will put others on their guard, and we advise constant watchfulness.—ED.]

AUTUMN-FLOWERING LÆLIAS.

THE Mexican autumn and winter-flowering Lælias include some of our most beautiful garden Orchids, and this season they have made a fine display. We now reproduce a photograph showing three very striking forms, two of which are well known, but the third we believe still remains unique.

LÆLIA × FINCKENIANA (fig. 1) appeared in the collection of the late C. W. Fincken, Esq., Hoyland Hall, Barnsley, and received an Award of

FIG. 1. LÆLIA × FINCKENIANA.

FIG. 2. L. × GOULDIANA. FIG. 3. L. ANCEPS SANDERIANA.

Merit from the Royal Horticultural Society in December 1892, and a year later it was again exhibited, when it received a First-class Certificate. It came home in a batch of Lælia anceps in 1889, and two years later it is said to have been picked out by Mr. Fincken on the supposition that is was a natural hybrid, on account of the distinct appearance of the pseudobulbs

and leaves. The belief was well-founded, for on flowering it proved to be intermediate between a white L. anceps and L. albida, from which it is believed to have been derived. Its intermediate character is well shown in the figure. After Mr. Fincken's death the plant passed into the collection of E. Ashworth, Esq., Harefield Hall, Wilmslow, where it now is, and we have not heard of the appearance of any other plant. It is very beautiful, and the two certificated scapes bore respectively five and six flowers.

L. × GOULDIANA (fig. 2) was introduced by Messrs Siebrecht and Wadley, of New York, in 1888, and the stock was acquired and distributed by Messrs F. Sander & Co. It is believed to be a natural hybrid between L. antumnalis and L. anceps. It is also a great beauty, and received a First-class Certificate from the Royal Horticultural Society in 1890.

L. ANCEPS SANDERIANA (fig. 3) is one of the best known white forms of the species. It was introduced by Messrs F. Sander & Co., it is said, from the Pacific coast of Mexico, and was described in 1885. In January 1887 it received a First-class Certificate from the Royal Horticultural Society. Some such form as this was probably one parent of L. × Finckeniana, and we should like to see the result of crossing the best white form of the species with L. albida.

HABITATS OF MADAGASCAR ORCHIDS.

[M. G. WARPUR, a Belgian collector who has recently introduced some very interesting Madagascar Orchids to this country, has furnished some notes of the conditions under which he found the plants growing in their native habitats, which will afford useful hints to growers as to the methods of treatment likely to prove successful. We can only wish that such notes were always forthcoming when new plants are introduced, as, in many cases, they would be extremely valuable, and prevent a good deal of perplexity and disappointment.—ED.]

CYNORCHIS PURPURASCENS grows generally on the prostrate stems of a species of Pandanus near the riverside in the high forest, at an altitude of 1,000 to 1,200 feet. Sometimes it grows in tufts of Asplenium Nidus, on large trees, at a considerable height above the forest floor. It flowers in March and April, and seems to like an intermediate temperature with much moisture and half shade.

CYMBIDIUM RHODOCHILUM (Rolfe) is a scarlet-lipped species which always grows on masses of Platycerium on the branches of high trees (chiefly of Albizzia fastigiata), near the rivers and on the higher slopes of the forest, at an elevation of 1,800 to 2,100 feet. It flowers in October, November, and December, and seems to prefer a moderate degree of humidity and much light. The rest of the flower is green.

CALANTHE WARPURI (Rolfe) is an epiphytal species, which grows in tufts of Asplenium Nidus, and other species of fern, on the stems of small trees, not far above the ground, often on slopes and near the riverside in the high forest at 1,200 feet elevation. It flowers from April to June.

CALANTHE MADAGASCARIENSIS (Rolfe) always grows in shady places on the lowest part of slopes, in moist clay and humus, often on the riverside in the high forest at 1,000 to 1,200 feet elevation. The air is here very humid and fresh. Flowering season April to June.

EULOPHIA MONOPHYLLA is a dwarf Orchid that likes the flat and open parts of high valleys. It grows in quartzy dry soil, between short grasses and other small plants, in sunny and dry places at 1,200 to 1,800 feet elevation.

All these plants, and others, are in cultivation at Kew, and an intermediate temperature is the best for them.

G. WARPUR.

THE PAST YEAR.

THE CONCLUDING year of the nineteenth century has not been marked by any very striking event in the Orchid World, such as the Hybrid Conference of the previous year, but, for all that, it shows a record of steady progress which augurs well for the future.

NOVELTIES.

One of the features of the past few years has been the steady decline in the number of important novelties introduced from abroad, and the increase of those produced at home by the energy of the hybridist, a feature which the record of last year serves to emphasize. Apart from varieties, we do not recall the appearance of any striking novelty from abroad, though among botanical species the flowering of a few notable additions might be mentioned, such as Masdevallia deorsa, maxillaria scurrilis, the two interesting Madagascar Calanthes, C. Madagascariensis and C. Warpuri, and the remarkable Trevoria chloris, but on turning to the list of hybrids a very different condition of things presents itself. Of these plants we now seem to have an almost constant supply, for scarcely a horticultural meeting passes, either at London or Manchester, without one or more novelties being exhibited. Those of the present year include sterling additions to the ranks of the Cattleyas, Lælio-cattleyas, Cypripedes, Dendrobes, and a few others, whose names, parentage, and the awards they have gained. are recorded in the reports of the different meetings.

CERTIFICATED HYBRIDS.

Some idea may be formed as to the rapid progress in hybridisation by a glance at the list of those to which the award of a First-class Certificate was made by the Royal Horticultural Society during the year. They

number twenty-four, and are as follows:—Cattleya × F. W. Wigan, C. × H. S. Leon, C. × illuminata, Lælia × Edissa, L. × Mrs. M. Gratrix grandis, Lælio-cattleya × Berthe Fournier, L.-c. × callistoglossa excelsa, L.-c. × Heary Greenwood superba, L.-c. × Wiganiana, Epidendrum × Wallisio-ciliare superbum, Sophrolælia × Eros, Dendrobium × Melpomene, Phaius × oakwoodiensis, Odontoglossum × Rolfeæ meleagris, O. × R. optimum, O. × R. Walton Grange var., O. × Souvenir de Victor Hye Lebrun, Phalænopsis × Schilleriano-Stuartiana, Cypripedium × Dora Crawshaw, C. × Leeanum Prospero majus, C. × Maudiæ (afterwards withdrawn, according to the record), C. × Priam, C. × Sanderiano-Curtisii, and C. × Sir Redvers Buller. A few of these are not strictly novelties of the year, having been previously exhibited, though not in such a developed condition as to gain the award. Those which gained an Award of Merit would form a still longer list, but must be passed over. The achievements of the hybridist are indeed remarkable, and one cannot avoid a regret that many of these acquisitions must remain rare for a long period, owing to the difficulty of increasing the stock.

Natural Hybrids.

Among natural hybrids must be included the interesting Cymbidium × I' Ansoni, described and figured in these pages, and in this connection we may mention the further significant fact that Odontoglossum × Wattianum, Cattleya × resplendens, and Lælio-cattleya × Gottoiana have now been raised artificially, thns demonstrating the hybrid origin of their wild prototypes.

Losses during the Year.

The losses by death during the year include the Marquis of Lothian, a special lover of Masdevallias, who will be remembered by the monograph of the genus issued by him, and illustrated by Miss Woolward; Mr. W. H. Lumsden, an enthusiastic amateur, who, we believe, flowered the first hybrid of Paphiopedilum Charlesworthii; Mr. T. B. Haywood, of Reigate, formerly a member of the Orchid Committee of the R. H. S., Mr. W. Vanner, of Chislehurst, another enthusiastic amateur, Mrs. Colston, of Devizes, M. Edward Pynaert, of Ghent, and, among the Orchid cultivators of a previous generation, Mr. C. Pilcher, formerly gardener to Sisimund Rucker, Esq., of Wandsworth. Mr. Phillip Crowley, of Croydon, Treasurer of the R. H. S., also grew a small collection of Orchids. We also regret the dispersal of the fine collection of Orchids brought together by G. S. Ball, Esq., of Wilmslow. These are losses to Orchidology, but gaps in the ranks are being filled by constant accessions of young enthusiasts, who discover in Orchid-growing an engrossing and delightful hobby, and who, no doubt, will contribute their quota to that progress which we believe will be still further emphasized in the opening decade of the twentieth century.

LÆLIA DIGBYANA AS A PARENT.

SOME time ago there was a legend that Lælia Digbyana was a complete failure as a seed-parent. This was partially exploded when a fine capsul, was produced in the collection of W. S. M'Millan, Esq., of Maghuel Liverpool, as recorded at page 238 of our seventh volume. The matter has now been carried a step further. A note in the *Gardeners' Chronicle* for November 24th (page 370), under the heading "Orchids at Harefield Hall," records :—

"In a small hothouse, entered from the corridor, Mr. Ashworth pointed out his greatest triumph in hybridising, viz., seedlings of a cross between Lælia Digbyana (seed parent) and Cattleya Warscewicsii. Several of the small, green, spherical bodies representing the plants in the earliest stage were to be seen, and as every care is taken to guard against mistakes, Mr. Ashworth is as certain as he can be that he has accomplished what others have failed to do, viz., raised a hybrid with Lælia Digbyana as the seed-bearing parent."

A week later Mr. J. M. Black, gardener to R. G. Thwaites, Esq., of Streatham, recorded another example (page 404). He writes :—

"At Mr. Thwaites' suggestion, and after so many recorded failures, with little hope of success, I fertilized two flowers of Lælia Digbyana last year—one in July with pollen of Cattleya Warscewiczii, and one in August with Cattleya aurea. Both crosses were successful, and the capsules duly ripened, in each case taking just one year in the process. On examination, there were clearly two kinds of seed in each capsule; the seed next the column had a brownish tinge and was sound, as it proved when sown; while that next the flower stalk was white and fluffy, and did not germinate. About one-third of the seed in each capsule had the power of germinating. The hypothesis is that, owing to the abnormal distance between the stigma and the ovary in Lælia Digbyana, the pollen tubes become exhausted in the conducting tissue, coming into contact with and fertilising those ovules only which are near the entrance into the ovary. The sound seed germinated freely in both cases, and, with reductions incidental to trans-planting and insect *gourmandise*, we are now left with a considerable number of each cross, the largest plants of which are making their third leaf and sending out roots, and we are assured of carrying them over the dead season. An abiding obstacle to the easy raising of Lælia Digbyana hybrids, even when it is used as the pollen parent, is the ripening of the seed near the end of the growing season."

We have not heard whether any of Mr. M'Millan's seed germinated, but it is recorded as having been sown in three different collections.

THE HYBRIDIST.

Paphiopedilum × Eos.

This is a very charming little hybrid, raised in the collection of W. M. Appleton, Esq., Tyn-y-Coed, Weston-super-Mare, between Paphiopedilum niveum ♀ aud P. Charlesworthii ♂. Mr. Appleton states that the seed was sown in August, 1896, and that the plant, which has just flowered, is quite small, and intermediate in character between the parents. The flower sent is most like the seed parent in shape, having broad and short elliptical-oblong petals, and the characteristic lip and staminode, but in colour the influence of P. Charlesworthii altogether preponderates. The dorsal sepal is of a very pleasing shade of rose-purple, somewhat marbled with white between the nerves, and the petals have much of the same colour, which also comes out on the front of the lip. The dorsal sepal at present measures 1½ inches across, and the extension of the petals is three inches. It is a dainty little gem, and Mr. Appleton must be complimented on raising such a promising little plant, which seems to combine the best qualities of both parents. It is interesting to find that P. Charlesworthii imparts so much of its beautiful colour to its hybrids.

Paphiopedilum × Cardosoanum is a handsome hybrid raised by M. Peeters, of Brussels, from P. barbatum Warneri ♀ and P. × Leeanum Albertianum ♂. Four quite dissimilar forms raised by Mr. C. C. Hurst, F.L.S., of Hinckley, from P. × Leeanum superbum ♀ and P. barbatum Warneri ♂ show well the great amount of variation in secondary hybrids. The darkest has the dorsal sepal richly coloured almost to the apex; a second has more white, with purple nerves extending almost to the apex; a third is altogether paler in colour, with much more white; while the fourth has the dorsal sepal green at the base, and the remainder white except a few short purple nerves where the two colours join, and a broad, dark, medium band approaching that seen in P. Spicerianum. It is an interesting case of variation, and an example of the opportunity which such plants afford for the selection of desired characters.

Paphiopedilum × Adrastus.—Mr. Hurst also sends four forms of P. × Adrastus, raised by him from the same capsule, the parents being P. × Leeanum superbum ♀ and P. Boxallii ♂. These also furnish a remarkable example of dissociation of character. One is a really fine form, good both in shape and colour, approaching the one known as P. × A. Hurstii. The dorsal sepal is marbled with brown, except for a clear green apex and a narrow white margin; while another form has sharply defined blotches throughout, and the green is absent from the upper third of the same organ. The third has only a trace of green near the base, and the fourth is more

like a pale example of the form first named. Mr. Hurst has thirty plants of this cross in bud, and more variations may be anticipated.

LÆLIO-CATTLEYA × CRANSTOUNÆ has evidently improved since it was described at page 19 of our last volume. A three-flowered inflorescence is now sent, together with a photograph, and the description being so recent we may briefly add that the flowers are most like Lælia tenebrosa in shape, and Cattleya Harrisoniana in size and colour.

PAPHIOPEDILUM × HITCHINSIÆ VAR. PICTUM.—This is another very pretty little hybrid from Mr. Appleton's collection. It was derived from P. Charlesworthii and P. insigne atratum, the former in this case being the seed parent. It differs from the typical form (figured at page 49 of our last volume) in having the base of the dorsal sepal almost entirely suffused with red-purple, from which extend broad lines of similar colour to some distance beyond the middle, the remainder being white. The additional colour, which comes from the dark form of the pollen parent used, renders it very attractive, and as the plant is small at present it is likely to develop into a good thing.

CATTLEYA × CLARKIÆ.—A distinct and pretty hybrid has just flowered for the first time in the collection of E. F. Clark, Esq., of Teignmouth. It was purchased in January, 1899, from Messrs. Charlesworth and Co., of Heaton, Bradford, as an unflowered seedling derived from C. bicolor × labiata, and the flower sent is just what might be expected from such a cross. The petals are more than twice as broad as the sepals, both being light rosy purple in colour, and the lip has the characteristic shape of C. bicolor, but is considerably enlarged, and with a pair of small auriculate side lobes, which envelope the lower half of the column. The whole of the front lobe and disc of the lip, right down to the base, are of a brilliant amethyst purple, and the side lobes are white. It has only produced a single flower at the first attempt, but will, of course, develop a raceme as it becomes stronger. Mr. Clark states that the plant has five bulbs, which are fairly intermediate in shape, the longest being about 5½ inches long and bearing a single leaf 7 inches long.

LÆLIO-CATTLEYA × ALBERTI.—A very distinct and pretty hybrid raised in the establishment L'Horticulture Coloniale, Brussels, it is said, from Lælia purpurata and Cattleya velutina, and flowered at Moortebeek in October last. The flower is most like the Lælia parent, both in shape and colour, but is reduced in size, and the expanded front lobe of the lip bears a large, bright, rose-purple, feathered blotch, recalling in some respects that of Dendrobium × Ainsworthii. A figure appears in the last issue of *Lindenia* (t. 723). The sepals and petals are white, with a slight

tinge of pale yellow, and the lip is pretty similar, with the addition of the feathered blotch above-mentioned. It is dedicated to Prince Albert of Belgium. It is very distinct from any other Cattleya velutina hybrid, and, without the above record, it would be difficult to name the second parent, though it is clear that some modifying influence has been at work.

DENDROBIUM × ISIS.—Some years ago the late Major-Gen. Berkeley, of Southampton, effected a cross between Dendrobium moniliforme and D. hercoglossum (the former being the seed-parent). At the sale of the collection six small plants were purchased by Dr. Cranstoun, Broad Street, Ludlow, and one of them has now produced its first raceme of two flowers. It bears clear evidence of its descent, the flower having much of the characteristic shape of D. hercoglossum, somewhat modified in detail, and the colour of the sepals and petals delicate blush pink, with the lip slightly paler, without any colour on the disc. The flowers are also sweetly scented. It seems to be a vigorous little plant, the tallest bulb being about nine inches high, and the one now flowering measuring four inches. It will doubtless prove as floriferous as both its parents. Dr. Cranstoun's gardener, Mr. Godfrey, remarks that there are also a few plants of it in other collections.

PAPHIOPEDILUM × NITENS WRIGLEYANUM.—A flower of this large and handsome hybrid, which received an Award of Merit from the Manchester Orchid Society on November 8th, is sent from the collection of O. O. Wrigley, Esq., Bridge Hall, Bury (gr. Mr. Rogers). It is excellent in form, both the petals and dorsal sepal being very broad, and the latter is prettily spotted. The seed was sown in 1893.

PAPHIOPEDILUM × AUREUM VAR. ROGERSII.—This is another handsome variety from the same collection as the preceding. It is result of a cross between P. Spicerianum and P. × nitens, and bears some resemblance to a fine P. × Leeanum, with an approach to P. villosum in the colouring of the petals and lip. The shape is excellent, and the dorsal sepal measures $2\frac{3}{4}$ inches across, its colour being white, prettily spotted with lines of small purple spots, which in the centre are nearly confluent into a broad light purple band, and at the base is a small green area spotted with brown. The petals are prettily spotted at the base, and in other respects show the modifying influence of P. Spicerianum, as do also the lip and staminode. This hybrid is notoriously variable, and about thirteen forms have received distinctive names, five of which are figured in the *Dictionnaire Iconographique des Orchidées*.

PAPHIOPEDILUM × MAUDIÆ.

THE accompanying figure represents the very interesting and beautiful Paphiopedilum × Maudiæ, which was exhibited at the Royal Horticultural Society's meeting on November 6th last by H. Worthington, Esq., Whalley Range, Manchester, and to which it is said that a First-class Certificate was awarded, but subsequently withdrawn, because the flower had been fertilized, and therefore could not be spared for a painting to be made in accordance with the Society's Rules. The photograph, taken by Mr. Worthington, was exactly natural size, and measured $4\frac{3}{4}$ inches from the

FIG. 4. PAPHIOPEDILUM × MAUDIÆ.

apex of the dorsal sepal to the front of the lip, but our illustration is reduced to two-thirds. As already recorded, its parents are P. Lawrenceanum Hyeanum ♀ and P. callosum Sanderæ ♂, and its intermediate character is well shown in the photograph. We presume that it is out of the batch raised by Messrs. Charlesworth and Co., one of which received a First-class Certificate at Manchester in September last. It is a most beautiful plant, and it is interesting to note that it is as true an albino as both its parents. It is now clear that albinism is a character which can be produced true from seed, and we may except to see the knowledge applied to practical purposes by our hybridists.

RAISING ORCHIDS FROM SEED.

An interesting note on Mr. Hislop's method of raising seedling Orchips occurs in an article on Bletchley Park in the *Gardeners' Chronicle* for December 15th (page 434) :—

"Like most experts, Mr. Hislop has special methods of raising the plants. He prepares small Orchid-baskets, partly fills them with peat and closely-growing sphagnum, and across each, just above the surface of the compost, on the upper side of the basket, he fastens a roughened bar of teak similar to those used in making the baskets. The prepared baskets are kept on hand, hanging up in the warm corner of the Orchid-house where the seedlings are to be raised, until they are wanted for use. Before the seeds are sown, the baskets are thoroughly wetted, and then the moisture is allowed to drain off. This being done, the seeds are sown on the teak cross-bar and water is applied when it is required by immersion, which falls short of reaching the surface where the seeds lie. When the seedlings have grown to a size at which they can be pricked off, this matter is attended to in the usual manner. Mr. Hislop has a considerable number of hybrids in prospect—Lælia Digbyana crossed with nearly all the showy Cattleyas; Cattleya aurea and other showy things crossed with fine forms of a good species, for it is considered a waste of time to use poor or ordinary forms. In one of the houses is a plant of Stauropsis (Vanda) gigantea, crossed with Vanda suavis and V. tricolor, the capsules approaching maturity; and many other interesting crosses are in progress. In one of the houses a batch of *Zygopetalum Mackayi* was noted in flower. These plants represent one of Mr. Hislop's few failures. The plants come from *Z.* Mackayi crossed with Odontoglossum crispum, but, although the seedlings differ slightly from the parent, they can be called nothing but *Z.* Mackai. The same result has been recorded in other places."

A writer signing himself "Hybridist" also calls attention to the subject in the *Gardeners' Chronicle* for November 17th (page 350). Why is it, he asks, that some comparatively inexperienced amateurs are successful in raising Orchids from seeds, while many experienced cultivators of Orchids fail completely. I know of several owners of important collections who have given vent to their disappointment in this direction, and I am constrained to assume that the cause of failure is to be found in some small detail.

Orchids which are very dissimilar in their characteristics may be cross-fertilised—in some cases good seed being obtained, but in a much larger proportion the development of the seed capsule is the only result, the seeds being imperfect and incapable of germinating. This power of obtaining capsules of full size, and yet containing good seeds of no vegetative power,

is the chief trouble of the hybridist, as it compels him to sow large quantities of seed. Nevertheless, these generally unproductive capsules must be looked after, for often there are a few good seeds among a great deal of chaff, and often he is rewarded for his care and attention by an unexpectedly good hybrid.

While the capsules are forming, it is best to hang up the bearing plants, and as soon as the ripening capsules show signs of splitting, remove them, and place each in a separate pan, the label bearing the record being put with each. As soon as ripe, it is best to sow the seed forthwith, no matter what the season is, for the seeds are so very delicate that there is more risk in keeping them than in taking the chances of their not germinating for a long time. It is generally admitted that the seeds stand the best chance of germinating if they are sown on the surface of the compost in which the plant which bore the seed is growing, or on one of a similar character. Before sowing, the materials should be thoroughly moistened by being immersed in rain-water, and afterwards hung up to drain away superflous moisture, and the seeds sown on the moist surface. The basket or pot should then be hung to the rafters in a moist, temperate house, and on every occasion when the plant is given water afterwards it should be done by immersing it in a tub or tank only deep enough to wet the materials to two thirds of its depth, otherwise the seeds will be floated off and lost, and, seeing that the materials never become quite dry, these are very important points.

The germinating seeds are seen as minute, spherical green bodies, and as soon as any of them get large enough to lift, they should be pricked off round the edges of previously prepared small Orchid-pans, and again suspended near to the roof. At a later period they should be potted singly, and in due time such as survive will become flowering plants.

As it is not possible to suspend a large number of small seedlings, it is a good plan to raise a small light woodwork staging near the glass on which to place the little plants, as, so situated, the effect is the same as if they were hanging up.

The methods indicated above are generally carried out more or less by all successful Orchid hybridists, and most of the latter assert that for general purposes they constitute the chief elements of success, although in different establishments different devices—generally very different ones—for forming surfaces on which to sow the seed may be found. In some places cross-sections of hardwood sticks cut about an inch thick, and placed in moisture-holding pans so that the seeds may be sown on the rough surface, which is kept constantly moist from below, are used. In other gardens pieces of tree-fern stems in pans of water are tried, and so on with other moisture-holding materials. There is yet another material which, by

the light of recent scientific theories, might give good results, and that is the lumps of roots knotted around the peaty vegetable deposit in which the Orchids grow in their native habitats, and which the Orchid importer will say is unfortunately too easily procurable among the quantities of Cattleyas and other Orchids which come to hand in bad condition, or dead. Among all the points contributing to failure, I think that applying water overhead is the most dangerous, and attention to dipping, instead, might save the situation with some of the unsuccessful.—HYBRIDIST.

CYNORCHIS PURPURASCENS.

A VERY interesting and beautiful terrestrial Orchid from Madagascar has just flowered at Kew, and proves to be Cynorchis purpurascens, a species described and figured by Thouars some eighty years ago (*Orch. Iles Afr.* t. 15), though it does not appear to have been previously introduced to cultivation, for the plant recently figured in the *Botanical Magazine* under this name (t. 7551) proves to be C. Lowiana, Rchb. f., which was then thought to be synonymous. The present plant was introduced by M. Warpur, who states that it generally grows on the prostrate stems of a species of Pandanus at an altitude of 1,000 to 1,200 feet, but sometimes also in tufts of Asplenium Nidus. The species was originally described from the island of Bourbon, where Balfour has since collected it. It bears a single, large, oblong leaf, and a raceme of large flowers which are wholly purple, with the exception a white blotch on the centre of the lip (C. Lowiana, it may be remarked, has green lateral sepals). The individual flowers remind one very much of a Pinguicula. It has grown and flowered well in a cool house. The plant described as C. calanthoides by Kränzlin (*Abhandl. Bremen*, vii., p. 260) is evidently identical, for the description agrees well, and it also was found growing on the stem of a Pandanus, by Rutenberg. Ridley, it may be remarked, described a species under the name of C. gibbosa (*Journ. Linn. Soc.*, xx., p. 331), which he afterwards reduced to a synonym of C. calanthoides, but this is evidently erroneous, for C. gibbosa is remarkable for its gibbous dorsal sepal, a character not found in the present species. A figure of the present one recently appeared in the *Garden* (1900, lviii., p. 375) under the title "A New Cynorchis," and a plant was exhibited at the R. H. S. meeting on December 4th last. Being an epiphytic species, it may perhaps prove easier to keep during the winter than some of its terrestrial allies, which often fail to put in an appearance after the resting season. It is much to be wished that some more successful method of treatment could be devised, for these plants are very attractive when in flower, and a collection of them would be very interesting.

R. A. ROLFE.

SOCIETIES.

ROYAL HORTICULTURAL.

ORCHIDS were very well represented at the Royal Horticultural Society's meeting at the Drill Hall, Buckingham Gate, Westminster, on December 4th, and medals were awarded to three interesting groups. The Orchid Committee was represented by:—H. J. Veitch, Esq., in the chair; and Messrs. H. Ballantine, H. J. Chapman, J. Colman, De B. Crawshay, J. Douglas, J. G. Fowler, E. Hill, H. Little, H. M. Pollett, F. Sander, W. Thompson, W. H. White, W. H. Young, and J. O'Brien (hon. sec.).

Baron Sir H. Schrœder, the Dell, Staines (gr. Mr. Ballantine), showed a fine group of Cypripedes, for which a Silver Flora Medal was awarded. Among the exhibits were Cypripedium insigne Sanderianum, some good plants of C. i. Sanderæ, C. i. Laura Kimball; a fine plant of C. i. Harefield Hall variety, with three flowers, C. × Arthurianum with six flowers, C. × Galatea Dell var. with ten flowers; a good cross between C. × Harrisianum superbum and C. Chamberlainianum; and several good plants of C. × Leeanum, including the varieties princeps and giganteum.

W. Thompson, Esq., Walton Grange, Stone (gr. Mr. Stevens), showed an inflorescence of a curious Odontoglossum, as O. cordatum var., having brown sepals with a yellow margin and tips, and the petals and lip pale yellow, with a few small brown spots at the base. He also exhibited O. × Rolfeæ meleagris, a finely marbled form, which is considered the finest variety of this handsome hybrid yet exhibited, and to which a First-class Certificate and Cultural Commendation were given.

Sir Trevor Lawrence, Bart., Burford (gr. Mr. White), showed Lælio-cattleya × Sunray (L. cinnabarina × C. superba), a fine form with orange scarlet flowers, slightly tinged with rose, and the front of the lip rich deep claret-colour.

Mrs. Haywood, Woodhatch Lodge, Reigate (gr. Mr. Salter), sent Cypripedium × bingleyense superbum (insigne × Chamberlainianum) a fine form, the dorsal sepal being white with rose-purple spots.

G. W. Bird, Esq., Manor House, West Wickham (gr. Mr. Redden), sent a large and finely-spotted form of Odontoglossum × Andersonianum.

F. Crisp, Esq., Friar Park, Henley (gr. Mr. Knowles), showed a good variety of Vanda Sanderiana.

G. W. Flook, Esq., Leewood, Cardiff, sent Epidendrum ciliare.

J. G. Fowler, Esq., Glebelands, S. Woodford (gr. Mr. Davis), exhibited Cypripedium × Harrisianum albens, with green flowers slightly tinged with purple.

Sir J. Miller, Bart., Manderston, Duns (gr. Mr. Hamilton), showed two nice hybrids, one derived from Cattleya × Brymeriana and Lælia tenebrosa,

having rose-purple flowers, with a darker lip; the other a C. Bowringiana cross, resembling C. × Mantinii.

Mrs. Langton, Hillfield, Reigate (gr. Mr. Pearce), sent a good Cattleya Dowiana called Hillfield var., with pale yellow sepals and petals and a richly coloured lip.

T. Statter, Esq., Stand Hall, Whitefield, Manchester (gr. Mr. Johnson), sent the beautiful Cypripedium × Maudiæ, C. × Francesiæ (Curtisii × callosum Sanderæ), the fine yellow C. insigne Luciani, and Dendrobium bigibbum rubescens.

Messrs. J. Veitch and Sons, Chelsea, staged an excellent group, to which a Silver Flora Medal was given. One half of it consisted of rare Cypripediums, among which were eleven well-grown plants of the beautiful Cypripedium insigne Sanderæ, bearing an aggregate of fifteen flowers, C. × Actæus, C. × Morganiæ, C. × T. B. Haywood, some fine specimens of C. × Leeanum, and many other good forms. The second half contained principally plants of the Cattleya group, including C. × Mantinii, Lælio-cattleya × Violetta (L. purpurata × C. Gaskelliana), L.-c. × Terentia (C. bicolor × L. crispa), L.-c. × Pallas, L.-c. × Hon. Mrs. Astor, L.-c. × Decia, L.-c. × Lady Rothschild, and Epidendrum × Wallisio-ciliare; also Phalænopsis × Hebe (Sanderiana × rosea), and other good things. An Award of Merit was given to Cypripedium × Leeanum Prospero majus (Spicerianum ♀ × insigne Sanderæ ♂) a fine form, showing clearly the influence of the pollen parent. The large white dorsal sepal had a green area at the base and bore numerous purple spots.

Messrs. H. Low & Co., Bush Hill Park, staged a fine group, for which a Silver Banksian Medal was accorded. It contained Cypripedium insigne Harefield Hall var., C. i. Sanderæ, C. i. Laura Kimball, C. × Leeanum Prospero, the handsome C. × Moensii, two fine forms of Oncidium × Mantinii with large yellow flowers prettily spotted with brown, O. Forbesii, Cattleya Dowiana, and a good Cymbidium Tracyanum.

M. O. Froebel, Zurich, sent three hybrids of Cypripedium Chamberlainianum, viz., C × Helvetia, C × Prince Hassein Kamil (Chamberlainianum × Boxallii,) and a pale coloured variety said to be from Chamberlainianum and insigne Chantini.

M. Warpur (care of Mr. Weathers, Silverhall Nursery, Isleworth), showed Cynorchis purpurascens, a fine Madagascar terrestrial orchid, bearing handsome spikes of purple flowers.

The last meeting of the year took place on December 18th, when there was again a good display, though the proportion of cut spikes was larger than usual. The following members of the Orchid Committee were present:—H. J. Veitch, Esq., in the chair; and Messrs. H. Ballantine, H. J. Chapman,

J. Colman, De B. Crawshay, J. Douglas, E. Hill, H. Little, H. M. Pollett, F. Sander, F. J. Thorne, H. A. Tracy, W. H. Young, and J. O'Brien (hon. sec.).

G. F. Moore, Esq., Chardwar, Bourton-on-the-Water (gr. Mr. Morris), was awarded a Silver Flora Medal for a fine group of about three dozen Cypripedium varieties, the majority being cut examples. It contained a fine lot of C. insigne varieties, including Sanderæ and Harefield Hall variety, also the best forms of C. × Arthurianum, C. × Leeanum, C. × Niobe, &c.

H. J. Grogan, Esq., Worthing, exhibited Lælio-cattleya × Lucasiana (labiata flammea × tenebrosa), which received an Award of Merit. It is allied to L.-c. × Gottoiana, and has flowers of a uniform bright rose-purple, with darker purple markings on the lip. The flower is larger than L. tenebrosa, and broader in all its parts.

F. W. Moore, Esq., Royal Botanic Gardens, Glasnevin, sent Neobenthamia gracilis (Rolfe) for which he received a Botanical Certificate. It is a graceful African Orchid, bearing heads of pretty white flowers with purple and yellow spots on the lips. He also sent Houlletia odoratissima, Maxillaria punctata, M. picta, and M. longipetala.

W. A. Bilney, Esq., Fir Grange, Weybridge (gr. Mr. Whitlock), exhibited a large and handsome form of Cymbidium Tracyanum.

N. C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gr. Mr. Murray), sent a plant of the beautiful Cypripedium insigne Sanderæ raised in the collection by fertilising with its own pollen, together with a flower of the wild type. On comparison, the home-raised example proves to be superior, being broader in all its parts, owing to which it was called "Oakwood variety."

C. H. Feiling, Esq., Southgate House, Southgate (gr. Mr. Stocking), exhibited a handsome Cypripedium Boxallii atratum.

C. S. Harris, Esq., Southgate (gr. Mr. Davis), showed a handsome Cypripedium called Hilda Davis (insigne Chantini × Leeanum Englehardtii).

H. Little, Esq., Baronshalt, E. Twickenham (gr. Mr. Howard), sent a fine form of Cattleya Percivaliana.

R. I. Measures, Esq., Ladymead, Reigate, Sussex (gr. Mr. Wotton), showed Cypripedium × Zeus and a good C. × Charles Richman.

Lieut.-Colonel Shipway, Grove House, Chiswick (gr. Mr. Walters), sent two specimens of the chaste Lælia autumnalis alba, one of which was perhaps the finest variety of this plant yet shown.

Messrs. J. Veitch and Sons, Chelsea, staged a very fine group, and were awarded a Silver Flora Medal. It contained several examples of Lælia × Mrs. M. Gratrix, varying from pale yellow to orange, L. × splendens, Lælio-cattleya × Coronis (C. labiata × L. cinnabarina), copper-yellow in colour with a purple lip, L.-c. × Terentia, L.-c. × leucasta (bicolor × harpophylla), L.-c. × Tiresias, L.-c. × Semiramis, L.-c. × Pallas, Cattleya

× Breauteana, C. × leucoglossa, the scarlet form of Epidendrum × O'Brienianum, E. × Wallisio-ciliare, Cypripedium × Tityus, × Bruno, × Lathamianum, × Leeanum giganteum, × Euryades, × Actæus, × œnanthum superbum, and many other good hybrid Cypripediums. Lælia × Mrs. M. Gratrix grandis, a large variety, of a straw-yellow colour with well-fringed flowers, was awarded a First-class Certificate, and Lælio-cattleya × Cassiope major (L.-c. × exoniensis × L. pumila), a very fine variety with light rose flowers, and the front of the lip crimson, an Award of Merit.

M. Chas. Maron, Brunoy, France, sent Cattleya Dowiana Rosita, a handsome variety, sent from Costa Rica by the late Richard Pfau, to which an Award of Merit was given. The sepals are cream white, tinged with purple, the petals mostly rose-purple, tinged with yellow at the base, and veined with whitish throughout, and the lip crimson-purple with golden veining. He also showed Lælio-cattleya × leucasta, and another hybrid of unrecorded parentage.

Messrs. F. Sander & Co., St. Albans, exhibited a collection of their seedling Epidendrum × Endresio-Wallisii, showing a remarkable range of variation of colour.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

A meeting of this Society was held at the Coal Exchange, Manchester, on December 13th, when there was a very good display of Orchids, and the awards included eight First-class Certificates, eleven Awards of Merit, and two Cultural Commendations.

Mrs. Briggs-Bury, Bank House, Accrington (gr. Mr. Wilkinson), exhibited Odontoglossum crispum Queen Helene, a finely shaped flower heavily blotched in the centre (F. C.), Cypripedium × Queen Mab (A. M.), a fine plant of C. insigne Harefield Hall var., and a yellow variety thought to be identical with that called C. i. Chantini Lindeni (F. C.).

J. Leemann, Esq., West Bank House, Heaton Mersey (gr. Mr. Edge), exhibited Cypripedium insigne Luciani, a bright yellow unspotted form (F. C.), C. × Statterianum Pickering Lodge var., a very dark form (A. M.), C. × J. Howes (A. M.), C. × Leeanum giganteum, and one called C. × L. magnificum Ball's var.

T. Statter, Esq., Stand Hall, Whitefield (gr. Mr. Johnson), sent the beautiful Cypripedium × Maudiæ (F. C.), C. × triumphans Stand Hall var., a richly coloured form, and C. × Francesiæ (Curtisii × callosum), which gained an Award of Merit.

O. O. Wrigley, Esq., Bridge Hall, Bury (gr. Mr. Rogers), exhibited Cypripedium insigne Berryanum, a very large form (F. C.), C. × Spicero-nitens (A. M.), and a fine well-flowered plant of C. × Niobe.

T. Baxter, Esq., Morecambe (gr. Mr. Roberts), exhibited a neat group

of choice Odontoglossums, to which a Silver Medal was given. Awards of Merit were given to O. crispum Florence and O. c. Lilian, two fine unspotted forms.

A. Warburton, Esq., Vine House, Haslingden (gr. Mr. Lofthouse), sent the beautiful yellow Cypripedium insigne Sanderianum, one of the earliest known of the yellow forms, and C. i. Luciani, a recent addition, having deep yellow flowers without any percepible trace of spotting. Each of them received a First-class Certificate.

FIG. 5. PAPHIOPEDILUM INSIGNE SANDERIANUM.
(First-class Certificate, Manchester, December 13th, 1900).

J. R. Fletcher, Esq., J.P., The Uplands, Whitefield (gr. Mr. Talbot), made his debut as an exhibitor, and gained Awards of Merit for two hybrid Cypripediums, C. Lawrenceanum × Mastersianum, and C. × Mrs. J. R. Fletcher, a cross between C. × T. B. Haywood and some unknown form. The former is a distinct and striking hybrid in which the character of C. Mastersianum comes out strongly, its peculiar mahogany brown colour pervading almost the whole flower.

W. Duckworth, Esq., Shaw Hall, Flixton, sent a fine plant of Cypripedium × Leeanum giganteum, and a profusely flowered example of Cymbidium Mastersii, the latter receiving both an Award of Merit and a Cultural Commendation.

W. Watson, Esq., Urmston Lane, Stretford, sent a very pretty group, consisting chiefly of Cypripediums, which gained a Silver Medal, among the more noteworthy being C. insigne Sanderæ, C. bellatulum album, and C. × Leeanum giganteum.

Messrs. F. Sander & Co., St. Albans, received a First-class Certificate for a fine hybrid derived from Cypripedium Lawrenceanum × Harrisianum, called C. × Flambeau, the flower being of a fine claret colour and the lower sepal nearly twice as large as the dorsal one.

Mr. J. Cypher, Cheltenham, sent a choice group, which gained a Silver Medal, including three well-flowered examples of Cypripedium × Leeanum giganteum, C. × L. aureum, two good C. insigne Sanderæ, C. i. magnificum, C. i. majesticum, and others.

Mr. John Robson, Altrincham, staged a neat little group, and was accorded a Vote of Thanks. Noteworthy examples were Odontoglossum crispum Bonnyanum, and a hybrid from C. × Leeanum × Bruno, the latter receiving an Award of Merit.

Mr. J. W. Moore, Rawdon, Leeds, sent three good examples of Cymbidium Tracyanum, for which a Cultural Commendation was granted.

Mr. A. J. Keeling, Bingley, Yorks, also staged a nice little group, including some good Cypripediums, and was accorded a Vote of Thanks.

HOULLETIA ODORATISSIMA XANTHINA.

This fine, deep yellow variety has again appeared in cultivation, having been introduced by M. Fl. Claes, of Brussels. It was originally described by Reichenbach in 1884, from a plant which flowered in the collection of Baron Hruby, of Peckau, Kolin, Bohemia (*Gard. Chron.*, 1884, xxii., p. 38), the flowers being described as fine orange yellow. Structurally it agrees with the type, but differs in having entirely lost the red markings, so that it must be regarded as a case of albinism. The species itself now seems to be very rare in cultivation, though it is a striking and handsome plant. It is a native of the province of Soto, on the east side of the River Magdalena, where it was met with by Schlim, and again in the Weinmannia forests near Ocana, whence living plants were introduced to M. Linden's horticultural establishment at Brussels. It flowered for the first time in Europe in M. Pescatore's collection at St. Cloud, near Paris, in 1852.

R. A. R.

CULTURE OF LÆLIA ANCEPS.

An eminent Orchid grower having asked me several times to state how I have been so successful in flowering the white forms of Lælia anceps, I herewith do so.

When calling upon M. Peeters, of Brussels, a few years ago, I was surprised to see how well he flowered his white varieties, and, in answer to my inquiries how he did it, he said he gave plenty of heat, and, in the growing season, no air in the day time, but he opened his house at night and syringed heavily. On reading travels in Mexico I found that where the white Lælias grow it is terribly hot during the day, and for three or four hours in the evening it rains in torrents, while in the morning there was often hoar frost. I also found that the flowering period came with the dry season. This I have tried to imitate in Staffordshire, and again here, and with wonderful success.

When the Lælias have fairly started to make their young growths I give plenty of heat, and in bright days no air and no shade; in dull days a little front air. I syringe very heavily from 3.30 to 4 p.m. every day, and again very early in the morning, and give plenty of air in front and a little at top about bed-time. After the growths are nearly full size, and the flower spikes about 12 inches high, I give front air continually, still keeping the hot water pipes warm; and a little top air is also given when in flower. This latter treatment is very similar to Cattleya treatment, only with a more generous use of air. I have had the leaves become yellow, and even scorched, through not shading, but plenty of soot and lime sprinkled underneath the plants in autumn soon restores the green colour.

I may say my greatest success was when I grew the plants in a house with bottom heat, and a layer of tree leaves over the bottom heat; the pans or baskets being raised off the leaves or trellising. I find that Lælia anceps has a preference for baskets and very little peat, and, curiously enough, unlike Cattleyas, does not seem to care to be hung up to the roof glass, but rather prefers to be down on the staging. This year I have proved thoroughly that air is the real panacea for them, as a whole row of plants in the Lælia house here, right away from the influence of ventilators, have no flowers, but I hope to alter this next year. I may say that the plants here cover a space of 13 feet × 3 feet, and have 150 flower spikes—one row, however, as stated above, being without flowers. There is considerable variety among them and they form a most beautiful sight.

James Hamilton.

Manderston, Duns, N.B.

CALENDAR OF OPERATIONS FOR JANUARY.

By H. A. BURBERRY, Orchid Specialist, King's Heath, Birmingham.

WITH the gradually lengthening days we may soon look for signs of renewed activity in our collections, but during the present month the winter treatment must be continued, so far as temperatures and watering are concerned. The following temperatures should be maintained as nearly as circumstances will permit :—

Cool House.—Day, 50° to 55°, with sun, 60° ; night, 50° ; morning, 45° to 50°.

Intermediate House.—Day, 58° to 63°, with sun, 66° ; night, 56° to 58° ; morning, 53° to 56°.

Cattleya and Mexican House.—Day, 60° to 65°, with sun, 68° ; night, 58° to 60° ; morning, 55° to 58°.

East Indian House.—Day, 65° to 70°, with sun, 75° ; night, 65° ; morning, 60° to 65°.

These figures should be maintained as nearly as possible, but due regard should be taken of the fluctuations of the temperature outside. If the weather be cold, do not attempt to reach the higher figures by excessive firing, which would do more harm than good. During a spell of severe weather the fire-heat may be economized by letting the blinds down at night, or laying mats or other coverings on the glass, which, however, should be removed in the day time, as it is important that the plants should receive all the light possible at this dull season.

Ventilate as freely as possible during mild weather, chiefly by means of the bottom ventilators, for a stagnant atmosphere is injurious to the plants. Do not let the atmosphere become dry, but damp the paths and walls once or twice a day, according to the amount of fire-heat used. Watering operations must still be carried on with caution, and much the same as last month. Keep a sharp look-out for insects, for cleanliness is of the highest importance, and a little extra attention in this direction will save much labour hereafter when time is more valuable. Slugs and cockroaches must be kept down at all costs, for it is useless to attempt to grow Orchids in a house infested with these pests, which devour young roots, flower spikes, and almost anything else without mercy. A little cotton wool placed round the base of a flower spike will often preserve it from these marauders.

In the Cool House many things are at rest. The principal work will be to give due attention to watering aud keeping the atmosphere in a healthy condition. Those plants which are commencing to grow should be kept rather moister than before, and any that are making active growth, such as Ada aurantiaca, will benefit by rather more liberal treat-

ment. A few Odontoglossums are now in bloom, and may be kept slightly drier than those beginning to grow. Masdevallias must be very carefully watered. A few kinds are in bloom, of which the beautiful M. tovarensis is the best, and its pure white flowers are invaluable at this season.

In the Intermediate House various things will require attention. Winter-flowering Cypripedes should be looked over as they pass out of bloom, and those that require repotting should be taken in hand as soon as they begin to grow. Miltonia vexillaria is growing actively, and should be well looked after. Avoid rapid fluctuations of temperature, over watering, and especially keep down thrips, or the flowers will be deficient in quality. Odontoglossum citrosmum should be kept very dry until the flower spikes appear, when a good watering may be given. Other occupants of the house must be treated according to their condition. The majority will still be at rest, but any that are growing should receive a moderate supply of water.

In the Cattleya House the majority of the plants are at rest, and should be very sparingly watered ; though a few that are growing or maturing the flower spikes should be placed in the warmest and lightest positions and receive slightly more water. Among the former may be mentioned Cattleya Warneri and C. intermedia, together with Lælia purpurata and crispa, and among the latter Cattleya Trianæ and Percivaliana. Lælia anceps and any others in bloom should be kept moderately dry, which helps to preserve the flowers. Cœlogyne cristata thrives well at the cool end of this house, and will soon be pushing up its flower spikes.

In the East Indian House many things are showing renewed activity. Dendrobiums are now in every stage of flower-production, a few being already out. Do not attempt to force them on, or the flowers will be deficient in quality. A succession of D. nobile and its hybrids and allies may be secured by bringing the plants on in batches. As the flower buds begin to push, the water supply should be slightly increased. D. Phalænopsis and its allies should receive a good rest, without being moved from the house, before growth re-commences. Species of Aërides, Saccolabium, and allied genera may be re-potted or top-dressed as signs of renewed growth become apparent. Efforts should be made to keep the atmosphere in a healthy condition, making due allowance for the weather outside. In the collection generally winter-treatment should continue to be given ; any attempt at hurrying things on will only result in weakly growth, to the detriment of the plants hereafter.

The busy season is now approaching, and it would be well to keep an eye on the supplies of potting and other materials, so that there shall be no delay when the proper season arrives. A little forethought at this period may prevent vexatious delays and injury to the plants hereafter.

NOTES.

Two meetings of the Royal Horticultural Society will be held at the Drill Hall, Buckingham Gate, Westminster, during January, on the 15th and 29th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

Meetings of the Manchester and North of England Orchid Society will be held at the Coal Exchange, Manchester, on January 10th and 24th.

On October 6th last, a Gold Medal was awarded to Mr. E. O. Orpet, South Lancaster, Mass., by the Massachusetts Horticultural Society, for a collection of ten hybrid Orchids which he had raised from seed. They included two plants of Cattleya × Thayeriana, C. × T. lobata, two forms of Lælia × nigrescens, (one being much finer than the one figured at page 337 of our seventh volume), L. × juvenilis superba, Lælio-cattleya × bletchleyensis, and L.-c. × C. G. Roebling. Photographs of several of them are sent by Mr. Orpet, and they certainly form a charming little group.

Mr. Orpet has been very successful with his hybrids, as he has about fifteen hundred seedlings coming on as the result of five years' work, and a number of them are approaching the flowering stage, which, he remarks, makes life worth living after the long period of waiting for results. A house of his seedlings is shown in the issue of *American Gardening* for November 3rd last (vol. xxi. p. 729), showing that the plants are in vigorous health.

According to a note by Mr. Niceville, in a recent number of the *Journal of the Asiatic Society*, the larvæ of an Indian butterfly, Chliaria Othonna, lives upon the Orchids Rhynchostylis retusa and Saccolabium papillosum, and thus we suppose would have to be classed with the Cattleya Fly as a pest if introduced to our collections.

A note in *American Gardening* for December 22nd, states that Mr. Oakes Ames has presented his unrivalled collection of coloured plates of Orchids to the Massachusetts Horticultural Society, to be known as the Oakes Ames collection of coloured drawings of Orchids.

A fine example of a double flower of Calanthe vestita rubro-oculata is sent by Mr. Stacey, gardener to Mrs. Jose, Mallingey, Perranwell Station, Cornwall. It appeared on a strong spike of about forty flowers, and really consists of two flowers fused together, for the pedicle is flattened, and bears two columns and lips placed side by side, two spurs, four petals, and five sepals.

We regret to hear of the death of Baroness Schrœder, The Dell, Staines, which took place on December 5th last. The deceased lady, who was a great lover of Orchids, was in her seventy-third year, and has not long survived the celebration of her golden wedding. The greatest sympathy will be extended to the Baron in his bereavement.

The hybrids between Odontoglossum crispum and O. Edwardii in the collection of D. B. Rappart, Esq., of Liscard, which were noted at page 231 of our seventh volume, are, we are glad to hear, still progressing satisfactorily.

ODONTOGLOSSUM × DICRANOPHORUM.

A PLANT of this very rare natural hybrid has appeared in the establishment of M. Fl. Claes, Etterbeek, Brussels. It flowered out of an importation of Odontoglossum crispum, in which a few examples of O. triumphans and O. Lindleyanum were also found, and M. Claes immediately recognized it is a natural hybrid between the two latter, owing to its intermediate character. Such a hybrid appeared in 1888, in the establishment of Mr. W. Bull, of Chelsea, and was described by Reichenbach as O. × dicranophorum, the name being given in allusion to the shape of the crest, which was said to resemble "an old-fashioned, two-pronged fork." The author described it as conjecturally a hybrid, adding "one cannot help thinking of Odontoglossum triumphans, notwithstanding the narrow floral envelopes, and in order to lessen one's perplexity one may think of O. Lindleyanum." The rest of the description confirms this view of its origin and its identity with the three other plants which have subsequently appeared. It is about intermediate in shape between the parents, and indeed might be passed over as a form of O. triumphans with narrow segments by anyone who did not recognize its hybrid origin. It might be looked for with confidence wherever these two species grow together, and, now that hybridising Odontoglossums is being taken up, perhaps someone will attempt to raise it artificially. Its history has already been given in this work (vol. ii., p. 328). It will be observed that the above-mentioned importation affords further evidence that O. triumphans and O. crispum grow together in certain localities.

R. A. R.

ORCHID PORTRAITS.

ANGRÆCUM HUMBLOTII.—*Garden*, 1900, lviii., p. 433, with fig.
CATTLEYA DOWIANA ROSITA.—*Journ. Hort.*, 1900, xli., p. 573, fig. 148.
CATTLEYA × ELISABETHÆ.—*Lindenia*, t. 721.
CŒLOGYNE DAYANA GRANDIS.—*Gard. World*, 1900, p. 217, with fig.

CYPRIPEDIUM × DORA CRAWSHAW.—*Garden*, 1900, lviii., p. 406, with fig.

CYPRIPEDIUM × DRAPSIANUM.—*Lindenia*, t. 724.

CYPRIPEDIUM INSIGNE (group of varieties).—*Gard. Chron.*, 1900, xxviii., pp. 472, 473, fig. 157.

CYPRIPEDIUM INSIGNE CHARTINI LINDENI.—*Gard. Chron.*, 1900, xxviii., pp. 409, 411, fig. 125.

CYPRIPEDIUM × JAMES BUCKINGHAM.—*Journ. Hort.*, 1900, xli., pp. 527, 529, fig. 135.

CYPRIPEDIUM × MAUDIÆ.—*Gard. Mag.*, 1900, p. 771, with fig.

CYPRIPEDIUM × PRIAM.—*Journ. of Hort.*, 1900, xli., p. 505, fig. 129.

DENDROBIUM SPECTABILE, Miq.—*Bot. Mag.*, t. 7747.

HABENARIA CARNEA.—*Journ. of Hort.*, 1900, xli., pp. 505, 507, fig. 130.

LÆLIA ANCEPS WADDONENSIS.—*Journ. Hort.*, 1900, xli., pp., 573, 575, fig. 149.

LÆLIO-CATTLEYA × ALBERTI.—*Lindenia*, t. 723.

LÆLIO-CATTLEYA H. S. LEON.—*Journ. Hort.*, 1900, xli., p. 483, fig. 125.

MASDEVALLIA DEORSA.—*Gard. Chron.*, 1900, xxviii., p. 395, fig. 121.

ODONTOGLOSSUM CRISPUM VAR. AURIFERUM.—*Lindenia*, t. 722. VAR. NOBILIUS.—*Journ. Hort.*, 1900, xli., p. 549, fig. 140.

ODONTOGLOSSUM ROLFEÆ MELEAGRIS.—*Gard. Chron.*, 1900, xxviii., p. 451, fig. 146; *Gard. Mag.*, 1900, p. 818, with fig.; *Journ. Hort.*, 1900, xli., p. 527, fig. 134.

CORRESPONDENCE. &c.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they may have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily).

H. J. R. Your seedling is very pretty, and looks like a form of Paphiopedilum × Cybele (Lawrenceanum × Druryi). The Druryi character comes out strongly in the flower, and the long scape and handsomely marbled leaf suggest P. Lawrenceanum as the other parent. We see no trace of insigne, and therefore do not think that P. × Ashburtonæ Barteti can have been the other parent.

P. S. T. The inflorescence of Cattleya labiata is very curious, both flowers being dimerous, and having the usual cruciform arrangement of the two sepals and petals, but whether it will come the same another year is doubtful. We should certainly keep it.

G. B. Apparently an undeveloped form of Cattleya Trianæ.

W. E. H. Oncidium Warscewiczii.

R. G. C. We are unable to find any record of Cypripedium Portia, and have no idea of what it can be.

R. R. Odontoglossum × excellens.

Received. E. F. C., O. O. W., R. Y., J. W. P., O. A., E. O., J. H.

ERRATA.

Two errors escaped detection in our last number until too late. "Zygopetalum Veitchii" at page 371 should have read Z. crinitum, and "Cypripedium" Tracyanum Crawshayanum should have read Cymbidium.

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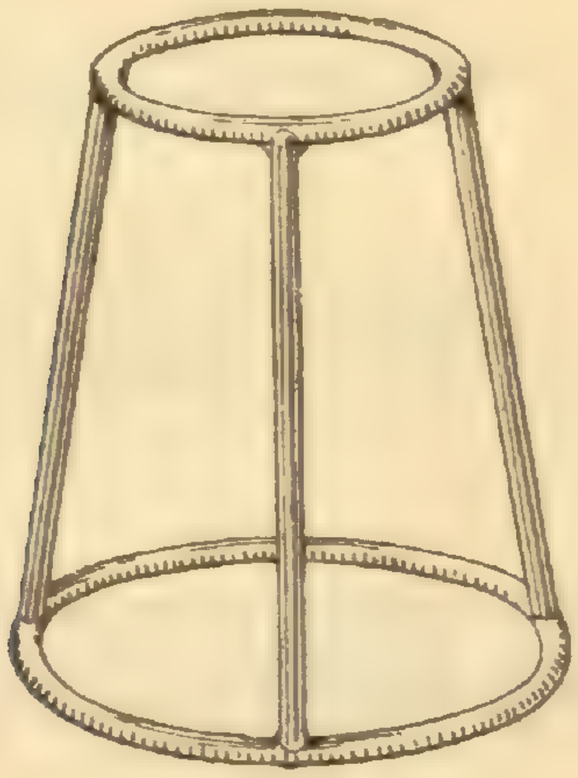

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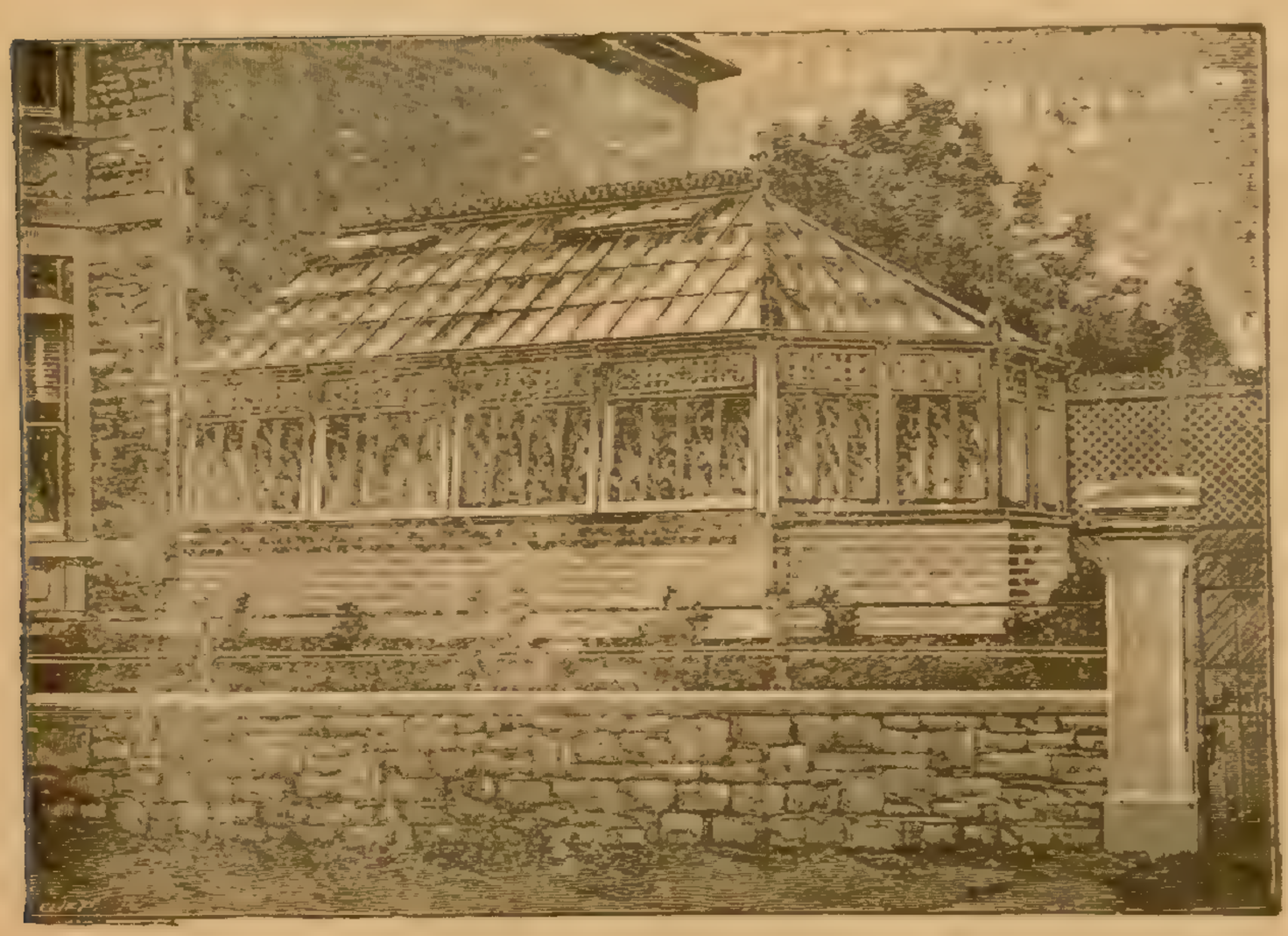

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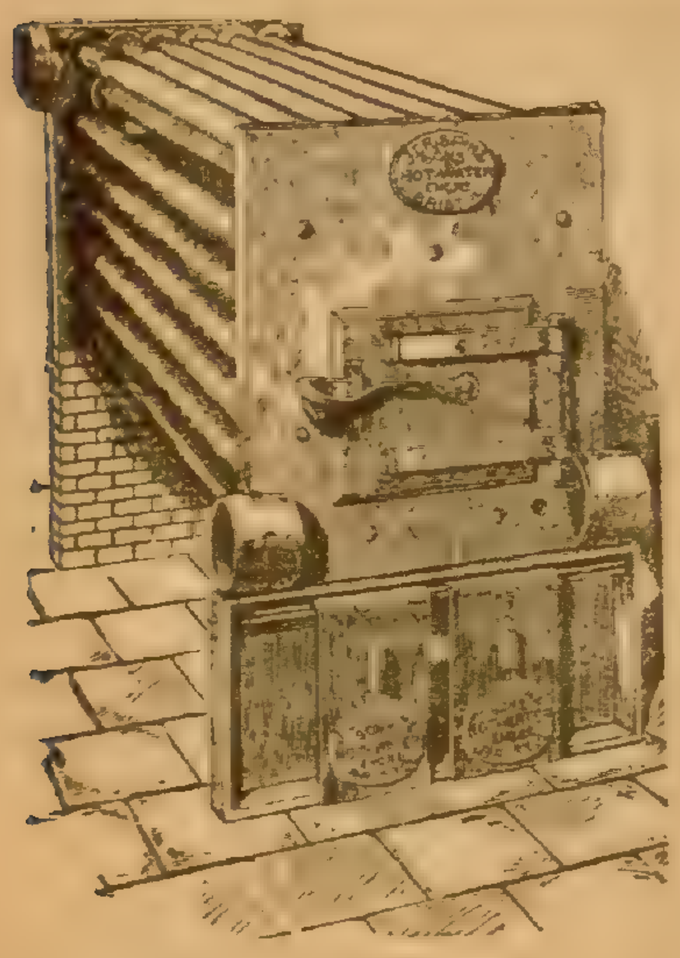

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VOL. IX.] FEBRUARY, 1901. [No. 98.

THE

ORCHID REVIEW:

An Illustrated Monthly Journal,

DEVOTED TO ORCHIDOLOGY.

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THE ORCHID REVIEW.

VOL. IX.] *FEBRUARY*, 1901. [No. 98.

In Memoriam.

SINCE the issue of our last number the nation has experienced a great bereavement in the death of its beloved Sovereign, Queen Victoria, a ruler whose memory will be revered, not only among her own subjects, but throughout the civilised world.

Sixty-three years is a long period to look back upon, and it is difficult to realize that Her late Majesty ascended the throne in the year that Bateman's great work, *The Orchidaceæ of Mexico and Guatemala*, was commenced, and long before the completion of Lindley's *Genera and Species of Orchidaceous Plants*. What Orchid culture was like in those days may be inferred from the notes in our last issue, where we saw that they were then only just beginning to find out how to grow such species as were accessible, and that it was in this very year that Gibson started on his historic mission to the Khasia Hills. Of its present development there is no need to speak. It is worthy of remark, however, that Cattleya Mossiæ, which was introduced immediately after Her Majesty's accession, is still one of the most popular species in cultivation.

How far Orchids were included among the Queen's favourite flowers we cannot say, but Her Majesty was, at all events, an Orchid grower, for many of these plants were included among the plant collections at Windsor, as we have had the pleasure of seeing. We also recall the splendid specimen of the Dove Orchid, Peristeria elata, bearing eight fine spikes and an aggregate of over three-hundred of its remarkable flowers, to which a First-class Certificate and also a Silver Flora Medal were awarded by the Royal Horticultural Society in September, 1898, in recognition of its exceptional culture. We also believe that some of the Orchids

grown were sent as presents to the Queen by some of the native Indian Princes.

Several striking Orchids have been dedicated to Her late Majesty, among which we may mention the remarkable violet-blue Dendrobium Victoria-Regina, a native of the Philippine Islands, the natural hybrid Cattleya × Victoria-Regina, figured in these pages as recently as December last (p. 361), the handsome Sophro-cattleya × Queen-Empress, raised by Messrs. James Veitch & Sons, and Odontoglossum crispum Queen Victoria, for which Messrs. Hugh Low & Co. received a First-class Certificate at the Temple Show

Fig. 6. ODONTOGLOSSUM CRISPUM QUEEN VICTORIA.

in 1897, and whose portrait we reproduce here. Some of these, at all events, will furnish permanent memorials of Her Majesty, whose reign has witnessed such an enormous development in the culture of these remarkable plants.

We may also mention that the first volume of the *Reichenbachia* and the Marquis of Lothian's *Monograph of Masdevallia* were dedicated, by special permission, to Her Majesty.

May the reign of her successor, His Majesty King Edward VII, be marked by a further development of the peaceful arts, among which horticulture generally, and its special branch of Orchid culture, now occupy such an important place.

DIES ORCHIDIANÆ.

I BRIEFLY alluded to the great Nomenclature Question in my last notes, and I see that "G. H. H." makes some very pertinent remarks on the "Muddle of Varieties," and the "Need of Reform," in the *Journal of Horticulture* for December 20th last (p. 548). The confusion, by the way, is dated from the time that the "hybridist became a power in the land."

"When one looks around and sees the creations for which the hybridist is responsible one can realize to some extent the magnitude of the work, and we have to thank a Nature that is so amenable to the skill of human art. But is there not a danger of overdoing this work, if it is not already done? Or rather, has not the time arrived when some check should be put on it, so that we may know what new forms are new indeed, not slight variations of something that already exists, or perhaps the vaunting of something as new that is really old, though perhaps obscure? Up to now the work has been all on one side. We have given a welcome to anything and everything without questioning its distinctiveness or originality, and any variety that has come out blessed with a name has been accepted as something new. Many disappointments have been felt later on."

Just so, and the writer goes on to remark:—"Varieties are in a state of chaos," and this condition of things is "not sudden or intentional," but "a matter of drift, with financial interests perhaps at the bottom of it, and the absence of power to govern the work. No generally recognized system of government exists. The reason is simple enough. One brings out a variety that is new to him and gives it the name of some celebrity, or perhaps a friend, as a compliment. He has no official means of knowing that the same variety is already known and named, and so we get two of them, or perhaps half a dozen, or more."

The author goes on to speak about sweet peas and potatoes—it might very well have been Orchids—and concludes by saying:—"Let every encouragement be given to the work of fertilisation and selection. We cannot have a superabundance of the beautiful and the useful, but let us have the work carried on under some defined rule to act as a guide to growers, and to be respected by raisers." There is too much disorder. Varietal names are handed out far too liberally, and "the man who is the most puzzled is the one who tries to find out the system upon which the whole question is conducted."

There is much that is to the point in these remarks, but I see no difficulty of finding out the system. It has been briefly and effectively described as "go-as-you-please." We have rules, but no one to enforce them, and if "G. H. H." can suggest a remedy he will be a benefactor to his race.

Something like a bomb-shell descended at the R. H. S. meeting last Tuesday. I thought we knew everything about Phaius tuberculosus, except perhaps how to grow it, but at this meeting there were two rival claimants for the name. One was the plant with which we are all now familiar, exhibited by Sir Frederick Wigan, the other a very fair imitation of a tufted evergreen Calanthe, until one looked at the flowers, which were those—well, nearly those—of the well-known plant. One had to look more than once or twice before feeling sure about the differences. The terrestrial plant bore a card, signed by Mr. Rolfe, to the effect that this was the true and original Phaius tuberculosus, and and that the well-known epiphytal species was an impostor, without a name of its own, and he had therefore re-christened it Phaius simulans, in allusion to the remarkable resemblance in its flowers to those of the original species—perhaps one might add, in commemoration of its successfully posing for some twenty years as the true plant.

Here was a pretty to-do, and comments were naturally many and various. One didn't thank Mr. Rolfe for his discovery, and another said he was always finding out something that ought to have been known years before. A third supposed that anyhow now the mistake had been discovered, we must correct it, and adopt the new names, which elicited the reply that of course we shouldn't do anything of the sort: we all knew tuberculosus now, and should stick to it. Of course we had the opinion that both were tuberculosus, only one had taken to growing up tree-stems, and changed its habits accordingly—or was it that when it grew on the ground it became tufted? Another view that found some favour was that the new-comer was a natural hybrid between P. tuberculosus and P. Humblotii, which accounted for the terrestrial tufted habit and some differences in the crest.

I merely record these facts and impressions, and leave the parties concerned to settle their differences. It was the excitement of the meeting, and I fancy that M. Warpur's introduction is a plant of considerable horticultural importance.

ARGUS.

THE HYBRIDIST.

ANGRŒCUM × VEITCHII.

THIS handsome hybrid, the first artificially raised in the genus, flowered with Messrs. James Veitch & Sons, in January, 1899, and was awarded a First-class Certificate by the Royal Horticultural Society, who at the same time presented a Silver Flora Medal to its raiser, Mr. Seden. It is now in the collection of W. P. Burkinshaw, Esq., Hessle, near Hull, who sends a very fine flower from the certificated plant. It measures over six inches across its broadest diameter, and the spur is eight inches long. Its parents are said to have been A. sesquipedale ♀, and A. eburneum ♂, but it has been shown that the A. eburneum of gardens is not the original plant of that name, but A. superbum (see Rolfe in *Orch. Rev.*, vii., p. 19), and the latter, we suspect, was the actual pollen parent. A second plant has now flowered with Messrs. Veitch, who have forwarded the two-flowered scape. This form has smaller flowers, with narrower sepals and petals, and the spur measures 5½ inches long. It will probably improve as it gains strength, but the sepals and petals are likely to remain narrower than in the original form. In both the flowers are ivory white with a green spur. It is a very striking hybrid.

LÆLIO-CATTLEYA × DIOGENES. — A hybrid raised by Messrs. Charlesworth & Co., Heaton, Bradford, from Lælia cinnabarina ♀ and Cattleya Leopoldi ♂, has just flowered in the collection of Reginald Young, Esq., Sefton Park, Liverpool. It is fairly intermediate in character, the sepals and petals being reddish-orange spotted with purple-brown, and the lip yellowish white tipped with rose-purple.—O'Brien, in *Gard. Chron.*, 1900., xxix., p. 53.

SOPHROLÆLIA × VALDA.—A hybrid raised by Messrs. James Veitch & Sons, from Sophronitis grandiflora × Lælia harpophylla. The flower is most like the Lælia parent in shape, but larger, and the flower light orange-yellow, without any trace of the characteristic markings of the Sophronitis parent on the lip.—O'Brien, *l.c.*, p. 54.

DENDROBIUM × ELLISII.—This is a very pretty hybrid, raised in the collection of Welbore S. Ellis, Esq., Hazelbourne, Dorking, from D. nobile ♀ and D. Hildebrandii ♂. The inflorescence sent bears three flowers, which show the distinct twist in the sepals and petals so characteristic of the pollen parent. The sepals are prettily suffused with light rose-purple to below the middle, and the petals are tipped with similar colour, the remainder being white. The lip is broadly tubular, somewhat expanded at the apex, white, with a salmon-coloured disc, strongly recalling that of

D. nobile Ballianum, surrounded by a light yellow area. Thus the flowers most approach those of the pollen parent in character. Mr. Barrell states that the bulbs are quite intermediate between those of the two parents, and, as both species are vigorous growers, we suspect that the hybrid has a fine constitution, and will prove as floriferous as its allies.

DENDROBIUM × AINSWORTHII.—A particularly good form of this hybrid is also sent by Mr. Barrell, who states that it is the result of crossing D. nobile with D. aureum philippinense. Compared with the old D. × Ainsworthii, of which a flower is sent for comparison, the petals are broader, the colour purer white, and the blotch richer maroon and less feathered at the edge. It is a charming form of this well-known hybrid.

PAPHIOPEDILUM × HERA.—A beautiful flower of this handsome hybrid between P. × Leeanum and P. Boxallii has been sent from the collection of R. le Doux, Esq., Marlfield, West Derby, Liverpool. The shape is excellent, and the petals very broad, while the dorsal sepal is handsomely spotted in a way that recalls some forms of P. × nitens. This hybrid is one of the handsomest of winter-blooming kinds, and one of its forms received a First-class Certificate from the R. H. S. about a year ago.

PAPHIOPEDILUM × J. HOWES.—Another attractive seedling from the same collection may be a form of this hybrid. Its parentage was thought to be P. Haynaldianum ♀ × P. × nitens ♂, but we find no resemblance to the former, and feel inclined to regard it as a form of the hybrid between P. × nitens and P. villosum. The whole shape of the flower, the staminode, and the villous ovary all strongly recall the latter, and the colour of the dorsal sepal is a warm chestnut, without spots, but with a broad white margin. In any case it promises to develop into a fine thing, and the doubtful point in the parentage may be cleared up hereafter.

PAPHIOPEDILUM × MOENSIÆ.—The pretty hybrid between Paphiopedilum callosum and P. Spicerianum has again been raised, this time in the collection of E. de Q. Quincey, Esq., Oakwood, Chislehurst. P. callosum was the seed parent. Two flowers are sent, from small seedling plants, which on the whole most resemble the pollen parent, though the veining of the dorsal sepal and some curving in the petals show the influence of P. callosum. As usual, the purple staminode of P. Spicerianum comes out very strongly.

LÆLIO-CATTLEYA × CAPPEI.—This charming hybrid was raised by Messrs. Cappe et fils, from Lælia cinnabarina ♀ and Cattleya Warscewiczii ♂, and was described at page 46 of our seventh volume. It has now considerably improved, and the raisers state that they have had several plants this season bearing three and four spikes, each with six

or seven flowers, and thus proving very decorative. A superior form called L. c. × Cappei grandiflora has now been sent, whose flowers are more than five inches broad, and the colour a very brilliant deep yellow, with the front lobe of the lip and apex of rich purple-crimson, and forming a brilliant contrast. It is one of the best cinnabarina hybrids which we have seen.

LÆLIO-CATTLEYA × PISANDRA.—Messrs. Cappe have also raised a very pretty and sweetly-scented hybrid from Lælia crispa ♀ and Cattleya Eldorado ♂, well agreeing with the original one raised by Messrs. Veitch. The sepals and petals are delicate pink, and the base of the lip light blush, with the throat yellow, and the front lobe bright rose-purple. The plant is said to be most like L. crispa, but the flowers rather resemble the other parent, and the lip is less veined than most other L. crispa hybrids.

ODONTOGLOSSUM LEAVES DECAYING AT THE TIPS.

AN important question has been brought forward by Mr. De Barri Crawshay in the *Gardeners' Chronicle* for January 19th (p. 49), with reference to the leaves of Odontoglossum decaying at the tips. "Of late years" he remarks, "this so-called disease has become prevalent everywhere, why no one seems to be certain, neither does anybody seem to be able to eradicate it. My plants of O. crispum are strong enough to please most people, but they have it, perhaps not so badly as some I have seen, but quite enough to satisfy anyone; more than enough to dissatisfy me. I have heard many reasons for the advent of this disfigurement, but as far as I yet see, myself, none will stand when analyzed. It is reasonable for the three-year-old leaves to decay at the tips, but when a pair of tips decay on leaves of the unfinished pseudobulb, it must be radically wrong. In this case I should expect the plant to be much too wet at the roots, and to be decidedly unhealthy, but such is not the case; the plant is a perfect picture, grown drier than usual, but of exceedingly vigorous habit. This is an exceptional case, as but few of the new leaves are tipped. Take a reverse case, a plant kept quite wet, of equal habit, has its last year's leaves "tipped," whilst this year's are perfect, therefore neither draught nor damp seem to offer any explanation. Plants near to and those farthest from the door are affected alike, scattered through the houses everywhere, in my houses, and in all Orchid houses I have seen; therefore it cannot be defective ventilation or cultivation, else the plants in some gardens would be exempt, and others badly attacked. Well grown and badly grown plants have it alike, both high on the hills and low in the valleys, with north, east, south, or west aspect. What is that thing common to all of us that we do, give,

or have, amongst the plants? I am doing my best to discover it, and so are many others, and I think, if we ventilate this matter, we may find out to what undesirable condition we had attained in the last few years. Five or six years ago I had no such malady amongst my plants, nor did I observe it anywhere else; now I am occasionally told 'we have got used to it, so we put up with it,' but as I do not intend to put up with it, I want to get rid of it, and shall be very pleased to hear of anyone that has done it, and how he did it, for a fine Odontoglossum plant with decayed tips is a sad sight to me, even if the plant is in a good state of cultivation.—De B. Crawshay, Rosefield, Sevenoaks."

OVER-POTTING ODONTOGLOSSUMS.

"THERE is great danger in overloading the roots of any Orchids with compost, and especially those popular species, O. crispum and its allies. All must be made firm in their pots, but this is easily done without putting two inches or three inches of solid peat that the roots can never find their way through. Far better to give too thin a compost and keep the atmosphere moist, for it is well known among Orchid collectors that rough winds in their native habitats bring down the plants owing to the slight hold they have on their host trees."—H. R. H. in *Journ. of Hort.*, Jan. 31, p. 89.

"Mr. Stevens now uses a compost of about half polypodium fibre and half leaf-mould, with a little moss and sand to keep it open, and only about half an inch of crocks at the bottom of the pot."—*Orch. Rev.*, 1900, p. 199.

Who shall decide when doctors disagree? H. R. H. recommends a thin layer of compost, but Mr. Stevens, who is certainly one of our most expert growers of Odontoglossums, only uses about half an inch of crocks. It would be really interesting to compare the methods of our best cultivators, and to know exactly what are the conditions most conducive to success.

DENDROBIUM LOWII.

THE Bornean Dendrobium Lowii is a rare species in cultivation, and reputed difficult to grow. It would appear, however, that a suitable position for it has been found by Mr. Ballantine, for Mr. J. O'Brien remarks that it has thriven for many years in the Nepenthes house, in the fine collection of Baron Sir H. Schröder, at The Dell, Staines, increasing in vigour, and forming what might almost be called a bush (*Gard. Chron.*, 1901, xxix, p. 54). The rather delicate D. Maccarthiæ from Ceylon also thrives in the same house. Such a position probably agrees pretty well with the conditions under which they grow in a wild state.

PHAIUS TUBERCULOSUS.

ANOTHER case of confusion in nomenclature has to be recorded. Some time ago M. G. Warpur brought from Madagascar a number of interesting Orchids, and among them a handsome Phaius which he reported as much like P. tuberculosus in the flowers, though terrestrial in habit. A painting of the inflorescence I had taken for P. tuberculosus until M.

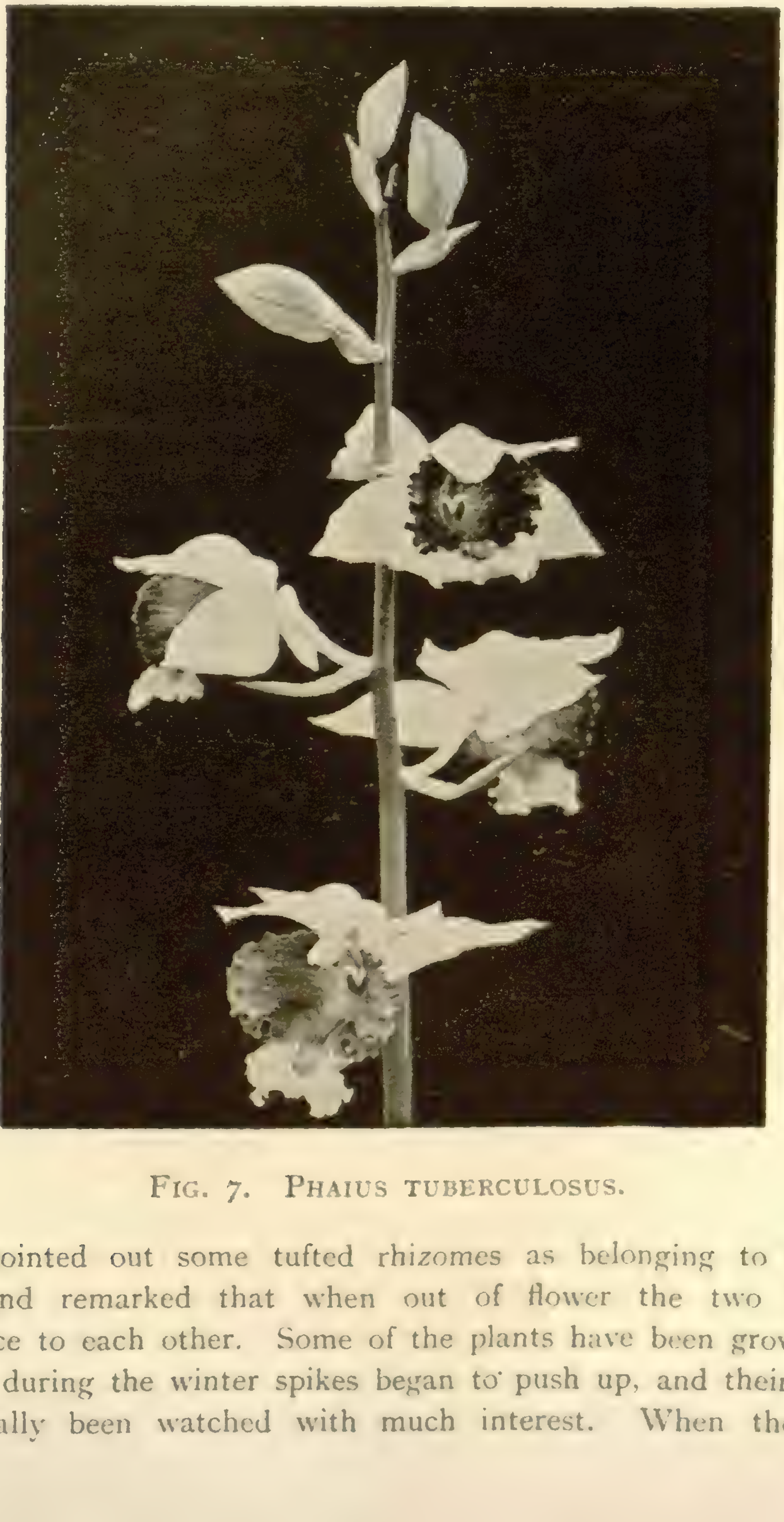

FIG. 7. PHAIUS TUBERCULOSUS.

Warpur pointed out some tufted rhizomes as belonging to the same species, and remarked that when out of flower the two bore no resemblance to each other. Some of the plants have been grown on at Kew, and during the winter spikes began to push up, and their progress has naturally been watched with much interest. When the flowers

expanded the accuracy of M. Warpur's observations was fully realized, so difficult was it to distinguish them from those of the epiphytal species represented in the *Botanical Magazine*, and this led to an examination of all the available materials, including an authentic flower from M. Thouars himself, preserved at the British Museum. This investigation resulted in the surprising discovery that the plant introduced by M. Warpur was none other than the original P. tuberculosus, and the one which has been known in gardens under this name for the last twenty years is something different.

Phaius tuberculosus was originally figured by Thouars in 1822, under the name of Limodorum tuberculosum (*Thouars, Orch. Iles Afr., t.* 31), the figure being prepared, as the author informs us in the preface, from nature, though it represents only the inflorescence, with analytical details of the flowers; and the details of the stem and leaves are not added in the brief synopsis of species. Fortunately, however, information which is sufficient for our present purpose is supplied in the synopsis of genera. Here the author established a new genus for the plants represented in his plates 31 and 32 (the latter called Limodorum villosum, a native of Bourbon), under the name Gastorchis, which he placed in the division Terrestres, as opposed to the other division which he termed Parasites. Any doubt that might have arisen about the correctness of Thouars' observations under this head are removed by an examination of his original figure and an authentic flower, for the details of the crest are markedly different in the two species. Gastorchis, it may be added, was afterwards reduced to Phaius by Blume, and the present species became Phaius tuberculosus (*Mus. Bot. Lugd. Batav., ii, p.* 181). It is therefore clear that the name has been transferred from the terrestrial to the epiphytal species.

The confusion began with Reichenbach, as may be seen from the following note which appeared in the *Gardeners' Chronicle*, in 1881 (xv., p. 428):—

"This is a very novel beauty. I have at hand a newly developed peduncle with only six fine flowers, in a few years no doubt there will be seen under Box Hill racemes with twenty flowers. They have rather stellate sepals and petals of fine white, and an exceedingly fine lip with wide yellowish lateral lobes, covered over and over with brown blotches on an anterior, obcordate, wavy middle lacinia, white, with mauve marginal spots. Three callous orange plates with numerous impressions stand in the centre, directed towards a tuft of light sulphur-coloured hairs which must suffice to embarrass many small inserts. They are perhaps attracted by similar small hairs which stand scattered on the side laciniæ. The column is white, with some light purple tint in front.

"When two and a half years ago the plants of M. Léon Hunblot came under the hammer, I wrote some recommendation to this zealous traveller, the copy of a sketch taken from the living plant well expressing its charm and the peculiar blunt base of the lip. All this, as at other times, proved good for nothing, and it was only Sir Trevor Lawrence, who was merciful enough to take cordial care of a plant, now his pride. I hear the few plants which stand at disposition immediately rose to five guineas, and when our American brethren send their orders, they will be quoted at ten guineas.

"The moral is that young travellers should only collect known things, and send, provided they know the thing, the novelty as perfect to some London establishment. When once they have appeared on the scene in fine flower, then it may be time to introduce them, as then the word 'new' is pronounced in another way than before. The specimen I alluded to is the one recently exhibited by Sir Trevor Lawrence.—H. G. Rchb. f."

This is the plant now so well known and so frequently figured as Phaius tuberculosus—the parent of several handsome garden hybrids—that the blunder, though excusable enough under the circumstances, seems particularly unfortunate, as it necessitates a change of name, though it is perhaps a consoling circumstance that the discovery was not deferred until the original plant became firmly established under some other name, which would only have increased the difficulty. In any case the change is unavoidable, and I think Phaius simulans a sufficiently appropiate name for the well-known epiphytal species.

When the above facts were ascertained living flowers of P. simulans were not available for comparison, but, by a curious coincidence, a plant was exhibited by Sir Frederick Wigan at the Royal Horticultural Society's Meeting, on Jannary 29th, when a plant of P. tuberculosus, introduced by M. Warpur, was also sent from Kew, with a brief statement of the above-mentioned confusion, which circumstance enables me to indicate more clearly the differances between them:—

P. TUBERCULOSUS (Blume).—Terrestrial, with tufted, ovoid, ringed rhizomes. Side lobes of lip without hairs; the three deep yellow keels 2½ lines long, somewhat verrucose, high and truncate in front, and thus club-shaped, the middle one channelled; disc behind the keels purple, with the nerves only slightly thickened, and bearing near the base numerous white hairs, arranged in four rows, the outer pair much smaller than the inner pair. Base of column bearing a V-shaped yellow marking.

P. SIMULANS (Rolfe).—Epiphytal with elongated, cylindrical, branched climbing stems. Side lobes of lip pilose or somewhat pubescent; the deep yellow keels 4 lines long, very closely verrucose, dwarf in front, and the lateral pair shortly bifid; disc behind the keels white, with the lateral pair of nerves prominently thickened, and bearing near the base a dense circular

tuft of long light yellow hairs. Base of column uniformly suffused with pink.

There are other slight differences in the flowers, and it may be added that the leaves of P. tuberculosus attain a size of two or three feet when fully developed.

M. Warpur states that P. tuberculosus grows on the highest part of slopes in the high forest in half dry humus, at an altitude of 1,200 to 1,500 feet. He recommends an intermediate temperature for it, and this has proved suitable at Kew, where it thrives under ordinary treatment. P. simulans climbs on tree trunks, at a lower elevation, and requires more heat and moisture. Mr. Young has grown the plant at Clare Lawn on a raft, in the Phalænopsis house, where it has been for about fifteen months.

The accompanying figure of Phaius tuberculosus is reproduced from a photograph of one of the Kew plants. It is rather curious that the species has not been introduced before, for there is a leaf and inflorescence preserved at Kew which was collected by Dr. Meller on the east coast of Madagascar, in woods about forty miles from Tamatave and five from the sea, in 1862; also a coloured drawing of the same, but these have not previously been distinguished from the epiphytal species.

R. A. Rolfe.

AN ORCHID STUD BOOK.

We have received the following from Mr. C. C. Hurst, F.L.S., Burbage Grove, Hinckley :—

"The large number of Hybrid Orchids raised in gardens during the past few years makes it almost impossible for one to keep in touch with their records. It seems desirable, however, that the history, parentage, and pedigree of the superior garden hybrids should be accurately and concisely recorded for future reference. To do this I propose to compile an Orchid Stud Book. The chief difficulty is to decide what to include, and after careful consideration, I propose to admit the following only :—

"I. All garden hybrids which have gained a First-class Certificate from the Orchid Committee of the Royal Horticultural Society of London since its formation in 1889.

"II. All garden hybrids which have gained a First-class Certificate from the Committee of the Manchester and North of England Orchid Society since its formation in 1897.

"III. The parents and ancestors of the above, whether species or hybrids."

CYPRIPEDILUM REGINÆ.

A PHOTOGRAPH showing a most beautiful group of the Moccasin flower (usually known in gardens under the name of Cypripedium spectabile), at Straffan, Co. Kildare, appears in the *Gardeners' Chronicle* for January 12th (page 21, fig. 10), accompanied by a very interesting note by Mr. F. W. Burbidge, which we here produce:—

"This plant has of late years been imported by the thousand from the Northern United States of America, until botanists on the spot now have to walk or ride a long way in order to find it in bloom. Most of the imported plants die off after flowering once or twice in our British gardens, So often is this the case that it is all the more pleasant to hear now and then of something like permanent success.

"At Straffan Gardens, in Co. Kildare, there was, last spring (1899). a bed of this plant which produced in all 400 fine flowers. In the spring of 1900, one-third of the plants were sent away, but the existing bed of 25 clumps bore 300 flowers, and among them were many bearing two, and a couple of stems bore three flowers each, both being on the same plant. I send you a photo taken by Mr. John McCleath, showing the bed as it appeared (1900). Mr. F. Bedford commenced with five imported plants only, from the Sale rooms, eleven years ago, so that good progress has been made. The bed is situated on the North side of a wall, and is also partially shaded, but not overhung, by a fine old evergreen oak towards the east. The soil specially prepared for this plant consists of bog earth or peat, and leaf soil, and a slight mulching is afforded when the plants are below the surface during the winter. When in full bloom a temporary awning is used to preserve the blooms from bleaching or browning in the sun, and to retard their decay as long as possible.

"The plant is so beautiful as thus seen, happy, healthy, and luxuriant, that I hope this slight record and picture may induce others to take up its culture in the open air, and treat it in the right way. It is a wood-plant, growing in leaf-mould and debris, and in cool shade. Full sunshine, or lime in the soil, or water, are fatal, and shelter from cold winds is most necessary when the plant pushes up its young and tender growths early in the year. The plant may also, if desirable, be grown in shallow boxes or pans, in peat and leaf-soil, in a cool and shady frame, and is then handy for removal indoors or to the conservatory when it is in flower. It now and then does well year after year in peat beds sheltered by Rhododendrons, Azaleas, and other so-called American plants, but I have never seen it so fine and permanently well grown as at Straffan Gardens."

F. W. B.

ORCHIDS IN SEASON.

SEVERAL beautiful flowers are sent from the collection of W. P. Burkinshaw, Esq., of Hessle, near Hull (gr. Mr. Barker). First may be mentioned two fine spikes of Cymbidium Tracyanum, from different plants, one being much darker than the other. The light form, Mr. Barker observes, carried five spikes, with an aggregate of sixty-three flowers, and formed a perfect picture, which we can fully realize, for some of the individual flowers measure over $5\frac{1}{2}$ inches across. The dark one is only slightly smaller, and bears ten flowers. Both forms are deliciously fragrant, the latter character probably being common to all forms of the species. Flowers of the richly-coloured Lælia anceps Barkeriana and L. a. alba show the extremes of colour in this species, for the latter is an albino, being absolutely without markings, except a little yellow on the disc of the lip, which is invariably present. We must mention also a good flower of Lycaste Skinneri armeniaca, and several fine Paphiopedilums. The latter include two fine forms of P. insigne, two handsomely spotted P. × nitens, P. × Leeanum giganteum, and two more heavily spotted forms, one of them being a strong twin-flowered scape. The whole series affords evidence of excellent culture.

Cattleya Trianæ is now beginning to bloom, and we have received two pretty forms from the collection of J. F. Laycock, Esq. Wiseton, Bawtry, Notts (gr. Mr. Lamb). One has blush white sepals and petals and a shade more colour in the lip, and may be referred to the variety delicata; the other is blush pink, with the front of the lip light rose purple.

A very beautiful flower of Lælia anceps Williamsii is sent from the collection of R. le Doux, Esq., Marlfield, West Derby, Liverpool, by Mr. Archer. It is of perfect shape, and pure white, with the usual purple markings inside the throat. A particularly fine form of Odontoglossum maculatum is also sent, in which the petals are unusually broad, measuring over three-quarters of an inch across, and less acute than usual. The markings also extend further from the base than in the ordinary form, a good flower of which is also sent for comparison.

A flower of the beautiful Lælia × Crawshayana is sent from the collection of De Barri Crawshay, Esq., Rosefield, Sevenoaks. It is from a part of the type plant named by Reichenbach eighteen years ago, and has much of the bright colour of L. autumnalis, with the shape and size about midway between this species and L. albida. Its history was given at page 46 of our third volume. A very fine flower of L. anceps Sanderiana is also sent, with a smaller form, having the front lobe of the lip pure white, which we should refer to L. a. Williamsii.

A fine spike of Odontoglossum maculatum and two of O. Rossii are

sent from the collection of D. M. Grimsdale, Esq., Kent Lodge, Uxbridge. Both species are well-known and easily cultivated, and the latter is one of the most popular species we have, and produces a profusion of flowers during the early months of the year.

Flowers of the distinct and very charming hybrid known as Lælio-cattleya × Hon. Mrs. Astor are sent from a collection of T. Statter, Esq., Stand Hall, Whitefield, by Mr. Johnson, together with a brilliant scarlet form of Sophronitis grandiflora, and splendidly developed flowers of Paphiopedilum × Calypso, P. × Madame Jules Hye, and P. × Leeanum Albertianum, the whole series being examples of excellent culture which it would be difficult to surpass.

PAPHIOPEDILUM × HARRISIANUM.

THE sportive character of this earliest hybrid in the genus—and especially of its variety Dauthieri—is now pretty well known, and now another example has appeared in the collection of R. le Doux, Esq., Marlfield, West Derby, Liverpool. The flower sent shows a broad, light green band, about two lines broad, right along the centre, while the area on either side is bright maroon-purple right up to the narrow white margin. Mr. Archer remarks that the plant has been in the collection for some years, but no such peculiarity has appeared before. It gives to the flower a very striking appearance, and, if it could be fixed, would be a distinct addition to the group. The history of the question above alluded to has already been detailed in these pages.

OBITUARY.

CHARLES PILCHER.—Another of the old generation of Orchidists has passed away in the person of Mr. Charles Pilcher, who died at his residence at Wandsworth on December 29th last. Mr. Pilcher, after learning his profession in some of the best gardens of the period, became gardener to T. W. Hodges, Esq., of Sandgate, Kent, and soon gained the confidence of his employer, who induced him, about the year 1850, to go to Australia to fill a position of trust in connection with the gold mines, during which period, the *Gardeners' Chronicle* remarks, he introduced the first bunch of watercress into Australia, at a cost of much perseverance and something like £5, as he himself was wont to relate. On his return he was appointed head gardener to Mr. Sigismund Rucker, of West Hill, Wandsworth, where he served for upwards of thirty years, having under his charge one of the finest Orchid collections of the day. Mr. Pilcher retired on leaving Mr. Rucker's service, but was a regular attendant at the R.H.S. meetings, and was for some years a member of the Orchid Committee. His name is

commemorated in Lælia × Pilcheri, raised by Messrs. Veitch from L. crispa and L. Perrinii, and which is said to have afterwards appeared as a wild hybrid.

SIDNEY COOKE.—We regret to hear of the death, on January 1st, of Mr. Sidney Cooke, gardener to De Barri Crawshay, Esq., Rosefield, Sevenoaks, at the early age of 46, after an illness from rheumatic gout and other complications of five weeks' duration. He was a skilful Orchid grower, and had the care of the Rosefield collection since its commencement in 1881. He leaves a widow and five children to mourn his loss.

JOHN BAGULEY.—Another well-known Orchid grower has passed away in the prime of life. Mr. J. Baguley died on January 29th, after a short and painful illness, from pneumonia. The deceased was traveller and foreman for Messrs. Charlesworth and Co. of Heaton, Bradford, to whom his death will be a great loss, for he had an extensive knowledge of Orchids, and of the trade generally, and in his business capacity he was probably known to most of our readers. He had previously been with Mr. Bull, of Chelsea.

GUANO-WATER FOR ORCHIDS.

THE question of manure for Orchids has frequently been discussed, but without arriving at any very definite opinion as to its value, and the following note from the *Journal of Horticulture* (p. 47, with fig.) for January 17th last, will probably be read with interest :—

"A few days ago I called to see Mr. F. Pheby, gardener at Belmont, Otley, the residence of Thos. Duncan, Esq. I saw there three specimens of Cypripedium insigne well worthy of comment. I have great pleasure in sending you a photograph, taken by Mr. Duncan, jun., of one plant which carried thirty-six blooms; the three plants carried about eighty-five. Remarkable to say, these plants have in no way been done up for a period of twelve years, and Mr. Pheby informs me that the three plants are each about twenty years of age. The largest plant is growing in a ten-inch pot. The surface is one complete entanglement of roots, rising four or five inches above the rims of the pots. I remarked about their healthy condition, when I was informed that they were very liberally treated with guano-water during their season of growth.—*J. Snell,* Farnley Gardens."

The specimen figured is very beautiful, and a picture of good health, and we should think that a system of culture that gives three dozen flowers in a ten-inch pot leaves little to be desired. Terrestrial Orchids, at all events, obtain their food in precisely the same way as all ordinary plants, and when the compost is exhausted one must either re-pot or resort to feeding when the plants are growing actively. The latter system has been adopted in the present case, and seems to be justified by results.

ANGRÆCUM SESQUIPEDALE.

ANGRÆCUM SESQUIPEDALE is one of the most striking Orchids which our collections possess, on account of its large and handsome, pure white, wax-like flowers, and remarkably attenuated spur, and blooming, as it does, in the winter serves to enhance its value. The foliage is also handsome. Its character is well shown in the accompanying figure, which represents a plant that bloomed in the collection of J. W. Arkle, Esq., of West Derby,

FIG. 8. ANGRÆCUM SESQUIPEDALE.

Liverpool, at Christmas last. There were fourteen flowers, but one had been removed when the photograph was taken. The species had been known to science for upwards of thirty years, when the Rev. W. Ellis, in 1855, succeeded in bringing some three plants alive, and one of them flowered in his garden at Hoddesden in the spring of 1857. It remained

rare in cultivation for many years, owing to the difficulty of getting it home alive, but since the opening of the Suez Canal this has to a great extent vanished, and the species is now well represented in collections. It succeeds well under the usual Warm-house treatment. Mr. Ellis states that in its native habitat it grows in the lowest and hottest districts, generally on the edge of the forest, or where the trees are not crowded, and where there is an abundance of light and air.

SOCIETIES.

ROYAL HORTICULTURAL.

THE first meeting of the year was held at the Drill Hall, Buckingham Gate, Westminster, on January 15th, when the display of Orchids was fully up to the average for this season of the year. The members of the Orchid Committee present were :—H. J. Veitch, Esq., in the Chair ; and Messrs. E. Ashworth, H. Ballantine, T. W. Bond, R. Brooman White, H. J. Chapman, W. Cobb, J. Colman, J. Douglas, E. Hill, A. Hislop, J. Jaques, C. J. Lucas, J. W. Potter, T. Rochford, H. A. Tracy, F. J. Thorne, W. H. Young, and J. O'Brien (Hon. Sec.)

Mrs. Briggs-Bury, Bank House, Accrington (gr. Mr. Wilkinson) showed a hybrid Cypripedium derived from C. Leeanum × Calypso, and a very fine natural hybrid Odontoglossum, called O. × Fairy Queen, which received an Award of Merit. One parent is probably O. triumphans, and it may yet prove to be a variety of O. × loochristiense.

E. Ashworth, Esq., Harefield Hall, Wilmslow (gr. Mr. Holbrook), received an Award of Merit for a plant called Dendrobium Ashworthiæ, a native of New Guinea, allied to D. macrophyllum. The flowers were greenish white, the petals distinctly stalked, and the lip curiously crumpled over the column. The ovary is downy, and the flower may not be quite normally developed.

H. F. Simonds, Esq., Woodthorpe, Beckenham (gr. Mr. Day), showed a finely grown plant of Dendrobium spectabile, bearing thirty-five flowers, also a second form with a longer lip, and Lælia anceps Simondsii, the latter receiving an Award of Merit. The flowers are pure white, bearing slate-blue lines on the disc, and a few small bluish spots on the front lobe.

Baron Sir H. Schroder, The Dell, Staines (gr. Mr. Ballantine), showed a small group of cut Orchids, including the rare Odontoglossum nevadense, the handsome purple-blotched O. crispum Sanderianum, a noble five-branched spike of O. c. Princess Christian, and several hybrid Cypripediums raised in the collection.

F. Bibley, Esq., Hardwicke Grange, Shrewsbury (gr. Mr. Taylor), showed a large and richly-coloured form of Lælia anceps.

F. M. Burton, Esq., Gainsborough, showed a good variety of Cattleya Walkeriana.

De B. Crawshay, Esq., Rosefield, Sevenoaks, exhibited a fine form of Odontoglossum × Wilckeanum.

W. Goodliffe, Esq., Worthing, sent two plants of Oncidium Sanderianum, an ally of O. serratum. The segments were brown, wavy at the edges, somewhat mottled with yellow, and the petals united at the apex in a ring-like manner. A pretty form of Odontoglossum Rossii was also sent.

F. Hardy, Esq., Tyntesfield, Ashton-on-Mersey (gr. Mr. Stafford), sent a series of cut Cypripedes, including C. × Minnie Ames, C. × Swinburnei magnificum, a fine variety of C. × Calypso, C. × Morganiæ burfordiense, C. × Macnabianum, and some fine forms of C. × Leeanum.

H. S. Leon, Esq., Bletchley Park (gr. Mr. Hislop) showed Sophronitis grandiflora gigantea, bearing three exceptionally fine flowers.

A. H. Smee, Esq., The Grange, Hackbridge (gr. Mr. Humphreys), sent a somewhat peculiar form of Lælio-cattleya × elegans.

C. D. K. Welsh, Esq., Broadlands, Ascot (gr. Mr. Guyett), sent a good form of Cypripedium Spicerianum.

Messrs. J. Veitch & Son, Chelsea, staged a fine group, to which a Silver Flora Medal was awarded. It included Angræcum × Veitchii eburneoides,: having narrower segments and a more elongated lip than the original form Zygopetalum × leucochilum, considerably improved since its last appearance; Lælio-cattleya × Wellsiana, L.-c. × Bryan, L.-c. × Coronis, L.-c. × Pallas, and others, together with a fine series of hybrid Cypripediums, including C. × Æson giganteum, C. × Minos, C. × Lathamianum superbum, C. × Morganiæ langleyense, some fine forms of C. × Lecanum, C. × Hera, C. × Euryades, and other allied hybrids.

Messrs. Hugh Low & Co., Bush Hill Park, sent two pans of Cypripedium callosum, and C. c. aureum, much like C. c. Sanderæ, but having the petals tinged with purple.

Messrs. B. S. Williams & Son, Holloway, sent the rare Lycaste lasioglossa, for which they received an Award of Merit.

M. Florent Claes, Brussels, showed a plant called Epidendrum Claesianum, a native of Colombia, at 6,500 feet elevation. It is a compact, bushy plant, with erect leafy stems, bearing terminal heads of white flowers. The plant, which bore twenty inflorescences, received a Botanical Certificate.

The second meeting of the month was held on January 29th, when the Orchid exhibits, owing to the inclemency of the weather, again consisted chiefly of cut flowers. The Committee was represented as follows:—H. J. Veitch, Esq., in the chair, and Messrs. H. Ballantine,

H. J. Chapman, W. Cobb, J. Colman, De B. Crawshay, J. Douglas, J. G. Fowler, E. Hill, C. J. Lucas, F. Sander, H. A. Tracy, R. B. White, W. H. Young, and J. O'Brien (Hon. Sec.).

Sir Frederick Wigan, Bart., Clare Lawn, East Sheen (gr. Mr. Young), staged a fine group, to which a Silver Flora Medal was awarded. It contained Cattleya chocoensis, Lælio-cattleya × Hypatia, and another pretty unnamed Lælio-cattleya, Lælia × Mrs. M. Gratrix, many cut flowers of Lælia anceps, including L. a. alba, L. a. Hillii, L. a. Sanderiana, L. a. Stella; Cypripedium × Godseffianum, C. insigne Harefield Hall variety, Phalænopsis Schilleriana, P. amabilis (grandiflora) aurea, P. Aphrodite, Odontoglossum × Harryano-crispum, Aërides Vandarum, Zygocolax × Wiganianus, Sophronitis grandiflora rosea, Miltonia × Bleuana, and an example of the plant known in the garden as Phaius tuberculosus, which proves not to be the original of that name, and therefore has been re-named P. simulans (Rolfe). The history of the confusion is given on another page. An Award of Merit was given to the pure white Cattleya chocoensis alba, and a Botanical Certificate to Phalænopsis Boxallii.

The Director of the Royal Gardens, Kew, sent a fine plant, bearing two spikes of flowers, of the supposed new Phaius, introduced by M. Warpur, but which has been identified as the original P. tuberculosus. An accompanying card signed by Mr. Rolfe, stated:—"Phaius tuberculosus, Blume (Limodorum tuberculosum, Thouars). A terrestrial species, identical with the original plant of Thouars. Recently introduced for the first time by M. Warpur, of Madagascar. The epiphytal species known in gardens under the above name, and figured in several works, is not the original plant, and I have renamed it Phaius simulans, in allusion to the remarkable resemblance which its flowers bear to those of the original species." [See figure on page 41.]

J. F. Alcock, Esq., Northchurch, exhibited a splendid form of Cypripedium × bingleyense (Harrisianum × Charlesworthii).

W. Cobb, Esq., Dulcote, Tunbridge Wells (gr. Mr. Howes), showed a fine example of Cypripedium × Mary Beatrice.

N. C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gr. Mr. Murray), sent spikes of Calanthe × Phœbe, with pink flowers, and C. × Oakwood Ruby, of a rich ruby red, with a small white spot on the lip. The latter received an Award of Merit.

De Barri Crawshay, Esq., Rosefield, Sevenoaks, sent some good forms of Odontoglossum Rossii, O. × Hallio-crispum aureum, and two fine cut spikes of O. crispum; also cut spikes of Lælia anceps Schrœderiana, L. a. Dawsoni, and the richly-coloured L. a. Juno. Odontoglossum nevadense rosefieldense received an Award of Merit.

A. W. H. Hay, Esq., Oakley Park, Eye (gr. Mr. Pratt), sent flowers of a nearly white form of Dendrobium nobile.

J. Lumsden, Esq., Balmedie, Aberdeen (gr. Mr. Paterson), sent some hybrid Cypripediums.

E. de Q. Quincey, Esq., Oakwood, Chislehurst (gr. Mr. Lees), sent Odontoglossum Londesboroughianum.

Reginald Young, Esq., Sefton Park, Liverpool (gr. Mr. Poyntz), showed some flowers of Lælia cinnabarina hybrids, including Lælio-cattleya × Sunray and L. c. × Diogenes, together with two Cypripediums.

Capt. C. C. Hurst, Burbage Grove, Hinckley, exhibited some Cypripediums, including varieties of C. × Adrastus and C. × Grovesianum, together with C. × Lathamianum and C. × Deedmanianum.

Messrs. H. Low & Co., Bush Hill Park, sent Cypripedium × Prewettii, and a fine, almost white, form of Cattleya Trianæ.

Messrs. Heath and Son, Cheltenham, staged a group of plants in flower, including Dendrobium nobile, D. aureum, D. × Edithæ, D. × splendidissimum Leeanum, D. × Cassiope, a fine Cypripedium × Lathamianum giganteum, and some varieties of C. insigne.

Mr. H. A. Tracy, Twickenham, showed a fine Lycaste × Balliæ superbum.

There was a slight mistake in your report at page 24 of my exhibit at the Drill Hall on December 18th. Cattleya Dowiana Rosita received a First-Class Certificate, not an Award of Merit. The plant reported as Lælio-cattleya × leucasta was presented under the name L.-c. × ochracea. The Committee thought it was like the former, but I am sure that it will prove quite different, for it is derived from Lælia harpophylla crossed with one of my first hybrids, L.-c. × Sallieri. The third plant was Cattleya × Leda, derived from C. Percivaliana × C. Dowiana aurea.

CH. MARON.

Brunoy.

[We thank our correspondent for the corrections, as we think accuracy a matter of the first importance.—ED.]

MANCHESTER AND NORTH OF ENGLAND ORCHID.

THE first meeting of the year took place on January 10th, when, owing to the inclemency of the weather, the number of exhibits was smaller than usual, and included a large proportion of cut blooms.

T. Baxter, Esq., Morecambe (gr. Mr. Roberts), exhibited a number of fine Odontoglossums, including O. × loochristiense Baxter's variety, an exceptionally fine hybrid which turned up amongst a lot of imported O. crispum. The flowers are yellow in colour, with large, pale brown blotches,

and the plant deservedly received a First-class Certificate. O. × Adrianæ Robertsianum also received a similar award. It is a beautiful flower, perfect in shape, and densely blotched with crimson-brown markings. Some good forms of O. crispum were also exhibited.

T. Statter, Esq., Stand Hill, Whitefield (gr. Mr. Johnson), staged a nice group, including Cypripedium insigne Sanderianum, C. × Leeanum magnificum, and a splendid example of the pure white Lælia anceps alba, in which the purple markings are totally obliterated. The latter received a First-class Certificate, and a Vote of Thanks was given to the group.

O. O. Wrigley, Esq., Bridge Hall, Bury (gr. Mr. Rogers), sent a number of nice cut blooms, mostly Cypripediums, including C. insigne Lucianum, which received a First-class Certificate, and C. × Fascinator an Award of Merit. A Vote of Thanks was accorded to the group.

A. Z. Lees, Esq., Stretford, (gr. Mr. Thompson), exhibited a plant of Cypripedium Boxallii atratum.

H. Partington, Esq., Glossop (gr. Mr. Campbell), showed a few good Odontoglossums.

Messrs. H. Low & Co., Bush Hill Park, sent a number of fine Cypripediums, including a splendid example of C. × nitens magnificum which received a First-class Certificate. C. × Leonidas also obtained an Award of Merit.

Mr. John Robson, Altrincham, exhibited a fine form of Odontoglossum × loochristiense aureum, which received a First-class Certificate.

Mr. A. J. Keeling, Cottingley, Bingley, exhibited a plant of Cypripedium × nitens.

At the meeting held on January 24th, there was a fine display of Orchids, besides four fine collections of paintings, mostly by Mr. J. L. Macfarlane. These were sent by J. Leemann, Esq., T. Statter, Esq., Messrs. Charlesworth & Co., and Messrs. Low & Co., and the Committee awarded Silver-gilt Medals to the two former, and Votes of Thanks to the others. It may be mentioned that the first-named collection contained over two hundred of these beautiful works of art. There were also, besides the groups, about fifty plants to be adjudicated upon by the Committee.

J. Leemann, Esq., Heaton Mersey (gr. Mr. Edge), staged a fine group of plants to which a Silver Medal was awarded. Awards of Merit were given to Cochlioda vulcanica grandiflora, shown in fine condition, and Cattleya Trianæ radiata.

W. Thompson, Esq., Walton Grange, Stone (gr. Mr. Stevens), sent a few beautiful plants and was accorded a Vote of Thanks. An Award of Merit was given to Odontoglossum crispum The Sirdar, a finely marked variety, and Cultural Certificates to a magnificent plant of Odontoglossum

hystrix bearing a spike of forty flowers, and a fine O. pulchellum, some two feet across and bearing over a dozen spikes.

A. Warburton, Esq., Vine House, Haslingden (gr. Mr. Lofthouse), received a First-class Certificate for Cypripedium insigne King Edward VII, a very fine variety, and an Award of Merit for Lælio-cattleya × callistoglossa Bleu's variety.

T. Statter, Esq., Stand Hall, Whitefield (gr. Mr. Johnson), received Awards of Merit for Cypripedium × Madame Jules Hye and C. × annamense.

S. Gratrix, Esq., Whalley Range (gr. Mr. McLeod), received a First-class Certificate for Cattleya Trianæ Gratrixiana, a large and richly coloured form.

A. Z. Lees, Esq., Stretford, (gr. Mr. Thompson), received a Silver Medal for a nice little group, consisting of some good Cypripediums, Dendrobiums, and Cattleya Trianæ.

E. O. Schneider, Esq., Whalley Range (gr. Mr. Hunt), received a Cultural Certificate for a well-grown plant of Dendrobium nobile.

Capt. C. C. Hurst, Hinckley (gr. Mr. Dakin) staged a nice group of Cypripediums, and was accorded a Vote of Thanks. C. × Adrastus var. Dakini was one of seven forms of this variable hybrid, and received an Award of Merit. Several other good hybrids were also shown.

J. R. Fletcher, Esq., Whitefield (gr. Mr. Talbot), sent a small group of hybrid Cypripediums, and received a Vote of Thanks.

O. O. Wrigley, Esq., Bridge Hall, Bury (gr. Mr. Rogers) sent Cypripedium × Bryani, C. virens, and a few others.

A. Watson, Esq., Stretford, sent a plant of the well-known Lælia anceps Sanderiana.

Mr. W. B. Upjohn, Worsley, received an Award of Merit for Miltonia Clowesii Lamarcheana.

Messrs. Hugh Low & Co., Enfield, sent a few good hybrid Cypripediums, of which C. × Prewettii received an Award of Merit.

Mr. A. J. Keeling, Bingley, sent Lælia anceps alba, and a number of good Cypripediums, a Silver Medal being awarded to the group.

Mr. W. Holmes, Timperley, received an Award of Merit for a plant called Dendrobium × hetero-Cypheri, which is a variety of D. × Ainsworthii.

We have received a photograph of the fine group of Cypripedes from the collection of O. O. Wrigley, Esq., to which the Manchester and North of England Orchid Society awarded a Gold Medal on November 8th last. An accompanying list shows that it contained nineteen varieties of C. insigne, two of C. callosum, C. tonsum, C. Charlesworthii, together with sixteen hybrids, the majority being fine forms of well-known hybrids. It is certainly a very beautiful group, and although the flowers are necessarily very

small in Miss Wrigley's photograph, many of the details come out very clearly when magnified.

HYBRID ODONTOGLOSSUMS.

(*Continued from vol.* viii., p. 301).

ODONTOGLOSSUM × LEPIDUM.—The identity of this Reichenbachian natural hybrid has hitherto been a matter of some uncertainty, owing to the absence of an authentic specimen, though, from the description, I previously placed it under O. × Lindleyano-luteopurpureum (*Orch. Rev.*, i., p. 333), which now proves erroneous, for Messrs. Charlesworth & Co., of Heaton, Bradford, fortunately, possess an authentic plant, which has now flowered, and enables the point to be settled. The flowers sent are quite intermediate between O. Lindleyanum and O. Pescatorei, which are evidently the parents, and as the hybrid was described in 1883, the name antedates both O. × stauroides and O. × elegantius, which have this parentage (see *Orch. Rev.*, ii., p. 141). Reichenbach indicated the affinity with O. Lindleyanum, but gave no clue to the second parent. His description of the colour, however, is sufficiently accurate:—Flowers yellow at first, ultimately white with yellow edging; sepals with two or three cinnamon blotches, petals with but one; a similar spot stands on the lip before the keels, and the base shows some brown marbling. The hybrid was introduced by Messrs. Shuttleworth & Carder, and flowered in their establishment in 1883, and it is a fortunate circumstance that the plant has been taken care of, thus enabling its history to be completed. It is very difficult to identify some of these hybrid Odontoglossums from the descriptions.

R. A. ROLFE.

(*To be continued.*)

CYPRIPEDIUM CALLOSUM ALBINOS.

We have been fortunate enough to bloom two quite novel and distinct "Albino" forms from amongst our large importation of Cypripedium callosum received last summer, something like 16,000! The first is after C. c. Sanderæ, except that the ground colour is decidedly yellow rather than the clear green of the earlier named variety, and the extremities of each petal are just tinged with purple. This plant we called C. callosum aureum, and exhibited it before the R.H.S. Orchid Committee on January 15th. The other was even more distinct, being practically a similar flower in every way to "aureum," except that the pouch was of the ordinary typical callosum colour. This formed a charming contrast; and both plants have passed into the collection of S. Gratrix, Esq., of Manchester, which is justly renowned for its Cypripediums.

EDWARD V. LOW.

CALENDAR OF OPERATIONS FOR FEBRUARY.

By H. A. BURBERRY, Orchid Specialist, King's Heath, Birmingham.

THE TEMPERATURES should remain the same as for last month, keeping the atmosphere in the houses as genial and health-producing as possible. This latter during the present month will greatly depend on the stoking of the fires. It is work which should be done with intelligence and forethought, so that sufficient warmth and no more is regularly maintained. Never do Orchids grow so well as when fire heat is not needed, and never do they grow so badly as when overdone with fire heat. Therefore I strongly recommend those who would be successful growers to do without it whenever possible. Our climate is proverbially changeable, and it is not an unmixed evil, for the less our coke or coal bill, the healthier, plumper, and greener are our Orchids. Many a day during the present winter has it been possible to allow the fire to go out for the greater part of the day, lighting it again in the evening, so as to maintain a steady warmth for the night and morning.

DAMPING AND AIRING.—These two items of management must be left practically to the intelligence of the grower. It is scarcely possible to write when, or how often, to damp and ventilate—one must work hand-in-hand with outside conditions, and the methods of firing, for therein lies success or failure. As regards damping, however, I may say that the atmosphere must not be allowed to become unduly dry, or the plants will soon suffer. For such mild weather as we have been having lately, damping down once a day will generally be sufficient. As to ventilating, aim at keeping the atmosphere pure and healthy, without opening the ventilators wide enough to cause a cold draught. Ventilate from the bottom; rarely, if ever, employ the top ones at this season. But here, again, one must be guided by the structure one has to manipulate. Some are perforated with many air spaces between the wood and glass, thus providing at this season almost enough fresh air, whilst others are so tightly constructed as to be practically air proof, and, when so, it becomes necessary at most times to have a chink on at the top, in addition to the bottom, to insure a gentle circulation. I am not quite in favour of such air-proof houses; there is an advantage, of course, during a blizzard of snow, &c., but I am inclined to think that is a small set-off against its disadvantages. Has any grower ever noticed, like I have done, how grandly Orchids invariably seem to grow in dilapidated, tumble-down old houses in which, on account of air spaces, it is difficult to keep up the temperature during severely cold weather?

WATERING.—Continue to do this sparingly, but do not exhaust the plants by keeping them over-dry. I water during winter once or twice a week, according to the amount of fire heat necessary to maintain the

temperature. Most plants then require it, and get it, more or less. Some few, perhaps—principally those that are quite dormant—may safely be passed over until the next time, whilst others in growth are perhaps watered twice. All, however, should be kept on the dry side, but not on any account so dry as to cause shrivelling of the pseudobulbs.

DENDROBIUMS, for the most part, are now resting in the Intermediate house, but many are fast swelling up their flower buds, and when these are well set, and pretty well advanced, the plants may receive water more liberally, and if placed in a little extra warmth the buds will quickly expand. New growth at the same time will quickly be pushing from the base, and after blooming, what re-potting or top-dressing is necessary should be performed; when if placed in their growing quarters—the Warm house—new pseudobulbs will rapidly form. Avoid pushing them on too rapidly in strong and moist heat, and still water sparingly until better and more suitable weather appears, or the new growths are very liable to damp, which is always a great mishap. D. Wardianum should now be coming in at its best, also D. nobile, D. primulinum, D. fimbriatum oculatum, D. × Cassiope, and a host of other hybrids. In re-potting, panning, or basketing, use the best of fibrous peat mixed with an equal portion of sphagnum moss, and make a special point of using small receptacles in comparison to the plant. Always well drain—at least one half—with clean crocks. A little charcoal is also good, but I think it is not very important.

RE-POTTING of Orchids is rather a delicate operation, and especially so with amateurs of slight experience, therefore the following few hints may here be penned. Do not disturb a large plant—for the sake of re-potting—unnecessarily, that is to say, unless it absolutely requires it. Potting a small plant may of course be done with less risk, because it is not necessary to disturb the roots so much. The length of time the compost of a newly-potted plant will last in a sweet, healthy condition depends on the quality of the compost used, the method of watering adopted, perfect drainage, &c. When re-potting is decided upon, always select the proper time for the operation, which is, with but few exceptions, just as new growth is pushing forth from the base of the pseudobulbs. Do not saturate the new compost immediately afterwards, but gently water the surface with the syringe, and keep it so moistened, together with its immediate surroundings, for some considerable time afterwards, which will prevent shrivelling and loss of foliage until the plant is re-established. Also keep more shaded than usual. For the better accommodation of recently-potted plants a good plan is to keep them together in one part of the house, so that they may be more sure of proper attention. Fibrous peat and sphagnum moss in equal parts, except where otherwise stated, is the best compost

to use, and this should be well mixed together and worked in carefully between the roots with the fingers of one hand, whilst the other holds the plant in position. Do not cramp the roots in one place, but endeavour to let them assume a natural position, distributed regularly about the pot. Make the compost moderately firm; not too firm, nor yet too loose. There is not a great deal of re-potting to do just at present, because very few species are ready, and we are not quite far enough out of the winter. But there are some few which can be done, as follows:—

CATTLEYAS.—The earliest to grow of the labiata section of Cattleyas may be taken in hand, such as C. Trianæ, C. Warneri, C. Gaskelliana, and C. Warscewiczii. The whole of these are now starting, and will soon make new roots in abundance. Like most others of the genus, they are intermediate-growing kinds. Those not requiring a new pot should be top-dressed. I may say that a Cattleya, properly cared for in watering, &c., should never really require re-potting unless actually overgrowing the pot.

WINTER-BLOOMING CYPRIPEDES, having now passed out of flower, may also be re-potted. I prefer to give these rather a rich compost, and use rather less depth of drainage, so the second-rate peat is selected, and broken up in small pieces for one half, making up the remaining half with lumpy fibrous loam, finely-broken crocks and charcoal, and a little chopped sphagnum moss. One can scarcely go wrong if he cultivate the whole of his Cypripedes in the Intermediate house. Some few, however, may possibly do a little better in the warmest house, like C. Rothschildianum, C. Sanderianum, C. philippinense, C. Stonei, C. Haynaldianum, and C. Lowii, and a few others will do equally well in the coolest house, such as C. Boxallii, C. villosum, C. insigne and its varities, and C. venustum.

MASDEVALLIAS.—This is also a capital time to re-pot Masdevallias, and similar compost to that advised for Cypripediums is good for these. For the strong-growing kinds, like M. Harryana and M. Veitchiana, pots are, I think, the best receptacles, but for dwarf-growing species, like M. Wagneriana and M. Shuttleworthii, small hanging pans or baskets are the best. Masdevallias are cool-growing Orchids, but do not like the temperature to descend too low, or the foliage may fall. A temperature of about 50° suits them well, and should there be any difficulty in keeping it above, say, 45°, they should either be allowed to remain dry at the root, or be removed to the Intermediate house for a time.

MILTONIA VEXILLARIA may also now be re-potted, especially if not in good health. They commence to make a lot of roots now, and if kept to small pots will sure to come round. I prefer, however, the period immediately after blooming for the operation, when the plants are strong, that seeming to be the more correct period. Peat and sphagnum in equal

parts is the best compost; use pots perfectly drained to one half their depth, and be careful not to over-water.

ANGULOAS AND LYCASTES should be re-potted as soon as new growth appears. Be careful not to knock off the tiny flower buds which come in clusters round the new growth. After flowering is usually the correct time to re-pot most Orchids, but this is an exception, for if left until then the growth is too far advanced. Use compost as advised for Cypripediums.

THE FUTURE OF THE CYPRIPEDE.

"I see no reason why the Cypripede should not become a first-rate florist's flower, like the Chrysanthemum and the Rose."

Thus writes a correspondent, and we fully agree with him. When one remembers how many good points the plant naturally possesses, and the improvements already affected by the hybridist, it is not difficult to foresee that the comparative absence of brilliant colouring, which some Orchidists urge against it, will soon be remedied. And whatever may have been said about them in the past, they are not all studies in browns and greens at the present day.

Some of them are beautiful enough to be grown for their foliage alone, to say nothing of the annual crop of flowers, which are far more beautiful than those of many foliage plants.

In the matter of culture and floriferousness they compare very favourably with most other Orchids, and the flowers are very lasting when cut. A well selected collection will also give a succession of flowers throughout the year. The dull season is completely eliminated.

It is during the winter, perhaps, that they make the bravest show, for the winter-blooming kinds have been crossed together to such an extent, and with such successful results, that to-day their name is legion, and the cry now is for greater selection.

Colour, as already remarked, is still the great desideratum, and we would suggest that all the best kinds which are deficient in this respect should be crossed with the most highly coloured sorts, in the hope of combining the two characters.

Much has already been done and our own impression is that the next few years will witness a further great advance.

What a wonderful flower the Cypripede is to last; I think it is one of the finest Orchids we grow. Here are flowers of C. × Leeanum magnificum and C. × Francisii which have been out since November, and though somewhat past their best, are in the latter part of January still good.

These plants have three things to recommend them. They give the greatest display in mid-winter, and last longer than any other Orchid without injuring the plant, while the fog, that injures or destroys almost every other Orchid flower, has little or no effect upon them. I believe they will be much more extensively grown in the future than in the past.

R. JOHNSON.

Whitefield.

LÆLIO-CATTLEYA · × DELICATA.

Two years ago a plant flowered in the Kew collection which had been received from the Right Hon. J. Chamberlain, M.P., as Lælio-cattleya × amanda, though the flowers proved to be quite distinct, being apparently intermediate between Lælia crispa and Cattleya Forbesii. Mr. Chamberlain states that it was an imported plant purchased under that name. It has now flowered again, and proves quite constant in character. The flower is smaller than in Lælio-cattleya × amanda, and the petals are markedly crisped and undulate. The front lobe of the lip, too, is strongly veined with deep purple on a much paler ground, and all these characters would be expected in a hybrid from Lælia crispa. The sepals and petals are delicate blush-pink, with slightly darker veins, and the disc and side lobes of the lip have that characteristic veining which is seen in all the hybrids of Cattleya Forbesii—purple down the centre, and passing into yellowish on the side lobes—a character which is more markedly developed in the parent alluded to. The lip is also tinged with yellow below the front lobe and just inside the throat. The plant has both one-leaved and two-leaved pseudobulbs. Both the parents grow near Rio de Janeiro, and we now have pretty clear evidence that they grow intermixed. The two most natural hybrids are L.-c. × amanda (L. Boothiana × C. intermedia) and L.-c. × Verelii (L. Boothiana × C. Forbesii). I hope that some of our hybridists will attempt the cross.

R. A. ROLFE.

ORCHIDS AT KEW.

AMONG the interesting Orchids which have recently flowered at Kew may be mentioned a fine species of Listrostachys from West Tropical Africa, allied to L. Chailluana, but remarkable for having all the long spurs hooked at the tip. It has been named and is to be described as Listrostachys hamata (Rolfe) in allusion to this character. It is interesting to record that the plant of Moorea irrorata is now throwing up two fine spikes. It originally appeared at Glasnevin, and a figure was given in the *Botanical Magazine* (t. 7262).

NOTES.

Two meetings of the Royal Horticultural Society will be held at the Drill Hall, Buckingham Gate, Westminster, during February, on the 12th and 26th, respectively, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

On March 26th, a lecture will be given at the Drill Hall, Westminster, by Mr. W. H. White, Orchid Grower to Sir Trevor Lawrence, on "Inconspicuous and rarely cultivated Orchids."

The Sherwood Silver Cup, value ten guineas, is this year offered for the best collection of Orchids shown by an amateur at the Temple Show, May 22nd, 23rd, and 24th, in a space not exceeding 100 square feet. Notice of intention to compete for the Cup must be sent to the secretary eight days before the show.

The following regulations from the Society's arrangements for 1901 may be useful:—

All persons, whether fellows of the Society or not, are invited to exhibit noteworthy objects at the committee meetings.

Each object must be separately entered with the secretary of the committee before 11.30 a.m. on the date of the meeting. If submitted for certificate, they must be placed on a special table reserved for certificated plants, and not be mixed up in groups.

The name, and, in the case of seedlings, particulars as to parentage and date of raising should be given if possible. If an importation, the name of its native country should be added. Seedlings, &c., sent **without name will receive no award.**

Exhibitors entering Orchids for Certificate must understand that by so doing they tacitly consent to their flowers being painted if they obtain any award, and that they will give the Society's artist all reasonable facilities.

When necessary, newly-imported plants will be referred to the Scientific Committee, that they may be correctly named.

The Manchester and North of England Orchid Society will hold meetings at the Corn Exchange, Manchester, on February 7th and 21st. The Orchid Committee meets at noon, and the exhibits are open to inspection from 1 o'clock until 3 p.m.

We regret to learn that the second son of Mr. James Douglas, of

Great Bookham, was killed by a flash of lightning at Stormberg, S. Africa, on January 10th. He was a member of the Cape Mounted Police.

M. Georges Martin, the well-known French Orchidist has been nominated a Chevalier of the Legion of Honour.

Mr. J. Mackay, sub-foreman in charge of the Orchid department at Kew, has been appointed Orchid grower to the Right Hon. J. Chamberlain, M.P., at Highbury, Birmingham.

The *Syren and Shipping* for January 23rd contains an excellent portrait of Richard le Doux, Esq., of Marlfield, West Derby, the possessor of one of the noteworthy collections of Orchids in the Liverpool district, of which an account was given at page 297 of our seventh volume.

When writing the account of Lælia × Finckeniana to accompany the figure at page 9 of our last issue, we overlooked the fact that a second plant has appeared. It is in the collection of Baron Sir H. Schroder, The Dell, Staines, and was described in 1895, under the name of L. × F. Schrœderæ, as recorded at page 43 of our fourth volume.

With reference to the missing flower of the dimorphic Odontoglossum × Denisonæ, described at page 355 of our last volume, Mrs. Briggs-Bury writes that it was like the lower flowers on the spike; but what is specially remarkable is that two flowers on a small side branch at the base of the spike (which had also been removed) were like the uppermost ones, so that the dark flowers were in the centre of the spike. Last year there was only one dark flower, which was the second from the base. The future behaviour of this plant will be watched with interest.

A NATURAL HYBRID LYCASTE.

A NOTE respecting the rare Lycaste lasioglossa appears in the *Gardeners' Chronicle* for January 12th (p. 18), and it is there stated that :—" Some time ago we received a natural hybrid from M. P. Walter, Magdeburg, Germany, imported with Lycaste Skinneri, and which was evidently a natural hybrid between it and L. lasioglossa." It would be interesting to know more about it, and whether the specimen was preserved. Natural hybrids are becoming a rather numerous class, and their study is attended with many difficulties, but I am trying to clear up their history and origin as far as possible, and should like to know more about the present plant.

R. A. ROLFE.

ORCHID PORTRAITS.

CATTLEYA DOWIANA ROSITA.—*Gard. Mag.*, 1901, p. 55, with fig.

CATTLEYA × PRINCE OF WALES.—*Journ. Hort.*, 1901, xlii, p. 25, with fig.

CORYANTHES MASTERSIANA.—*Gard. Chron.*, 1901, xxix, p. 19, fig. 9.

CYPRIPEDIUM × GERTRUDE HOLLINGTON.—*Journ. Hort.*, 1900, xlii, p. 89, with fig.

CYPRIPEDIUM SPECTABILE (at Straffan).—*Gard. Chron.*, 1901. xxix, p. 21, fig. 10.

DENDROBIUM DENSIFLORUM (specimen plant).—*Gard. World*, xvii, p. 329, with fig.

DENBROBIUM NOBILE (at Sydney).—*Garden*, 1901, lix, p. 43, with fig.

LÆLIA × MRS. GRATRIX GRANDIS.—*Gard. Mag.*, 1901, p. 6, with fig.; *Gard. Chron.*, 1901, xxix, suppl., fig. 5.

LÆLIA PUMILA BUSH HILL VAR.—*Gard. Mag.*, 1901, p. 21, with fig.

LYCASTE LASIOGLOSSA.—*Journ. Hort.*, 1901, xlii, p. 5, with fig.

MASDEVALLIA DEORSA.—*Gard. Chron.*, 1900, xviii, p. 395, fig. 121,

ONCIDIUM FORBESII.—*Gard. Mag.*, 1901, p. 21, with fig.

SARCOCHILUS LILACINUS, Griff.—*Bot. Mag.*, t. 7754.

ZYGOPETALUM MAXILLARE.—*Journ. Hort.*, 1900. xlii, p. 89, with fig.

CORRESPONDENCE. &c.

(*Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they may have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily*).

W. S. The "rust" on the leaf of Paphiopedilum venustum is not a fungus, but the result of insect puncture ; probably thrips in the young growth. A pinch of tobacco powder dropped in is often an effective remedy.

T. A. Paphiopedilum × Hera is, we consider, the correct name for the hybrid between P. × Leeanum and P. Boxallii. It is true that "Hera" had been applied to an earlier hybrid, which, however, proved synonymous with P. × Lathamianum, thus leaving the name free for the present one, which was called "Adrastus" at a later date.

O. O. W. Both 1 and 2 are forms of Paphiopedilum virens. P. nigritum is also Bornean, but has the dorsal sepal striped with purple. 4 is a very pretty hybrid, clearly derived from P. Charlesworthii and P. tonsum. 5 has the characters of P. Argus strongly marked, the other parent evidently being one of the racemose group, probably P. philippinense, which would make it a form of P. × Bryani.

R. J. A form of Paphiopedilum × vexillarium with rather less colour than usual The barbatum staminode is unmistakeable, and the colour and markings different from those of P. Fairrieanum. Are the leaves not marbled?

W. C. A good fairly typical form of Paphiopedilum × Leeanum which, we think, does not require a varietal name. We have already too many indistinguishable varieties, and too many whose characters are not on record.

Photographs received, with thanks. O. O. W., J. W. A., A. W. H.

Received. J. R., C. C. H., J. T. B., T. A., W. H. W., A. H. N., J. W.

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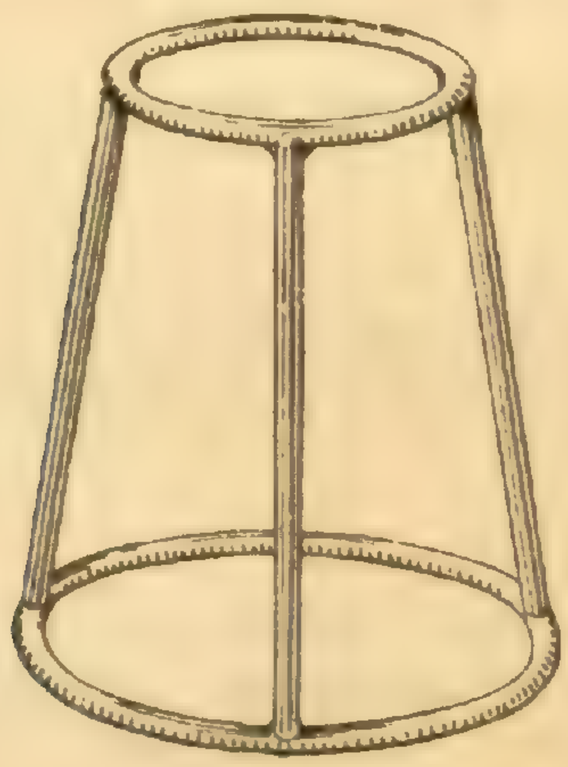

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Orchid Society.

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MEETINGS of the COMMITTEE, for the purpose of adjudicating upon the Orchids submitted, will be held on February 7th and 21st, 1901, at 12 o'clock prompt. Open to members from 1 o'clock to 3 o'clock p.m.

P. WEATHERS Hon. Sec.,
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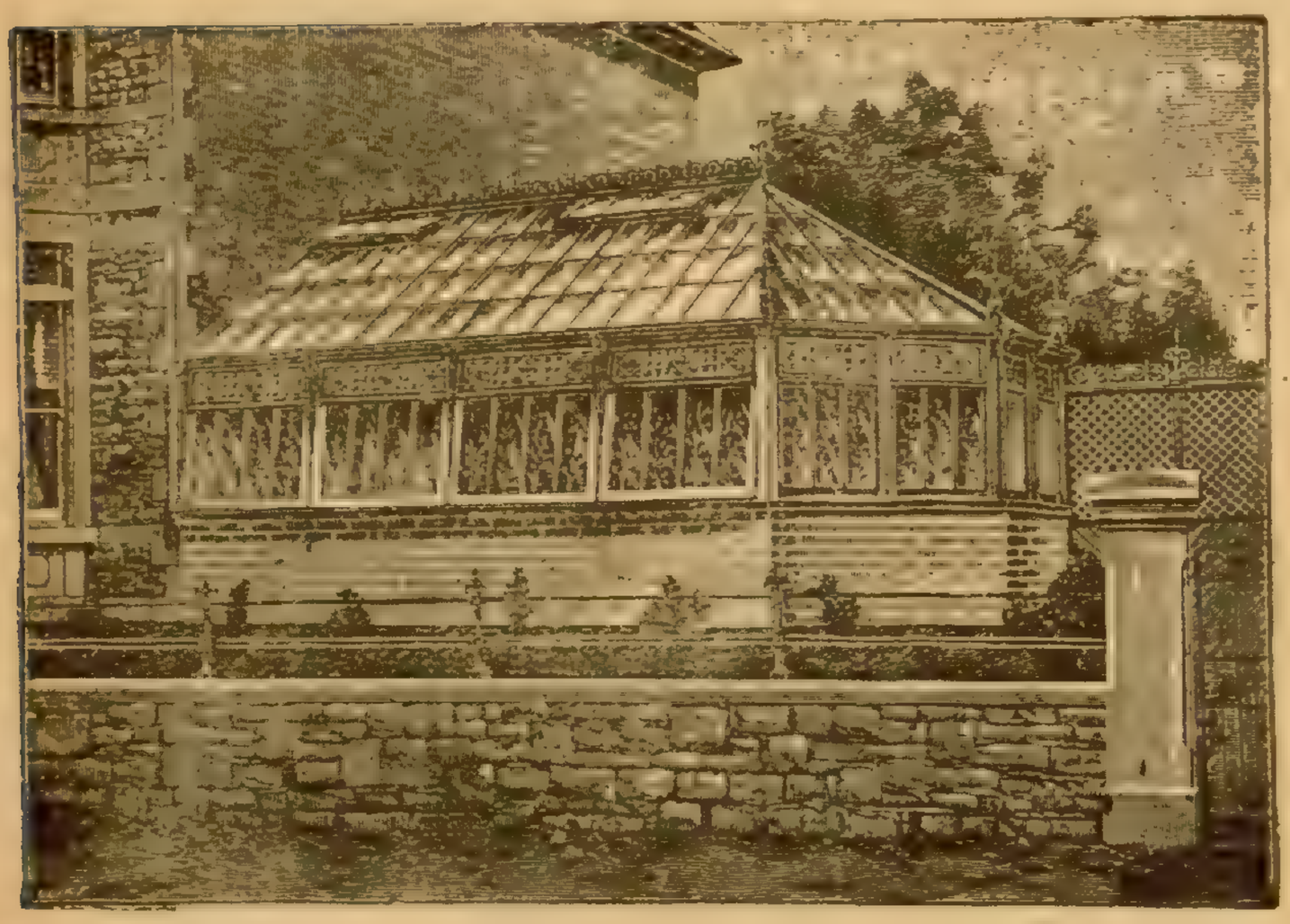

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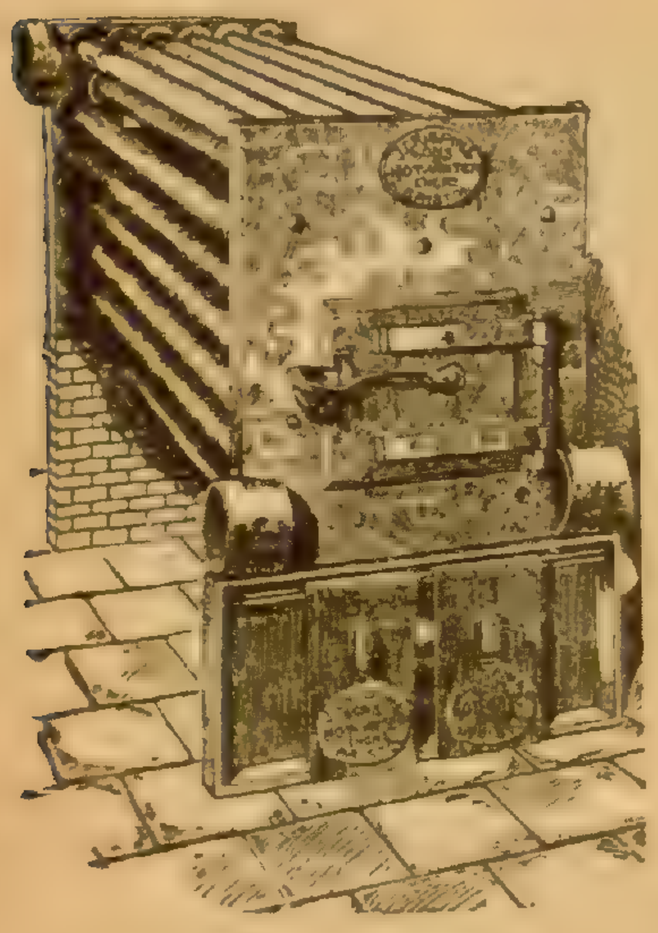

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THE ORCHID REVIEW:

An Illustrated Monthly Journal,

DEVOTED TO ORCHIDOLOGY.

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THE ORCHID REVIEW.

VOL. IX.] *MARCH*, 1901. [No. 99.

DIES ORCHIDIANÆ.

THE history of Phaius tuberculosus and its ally, P. simulans, as given in your last issue, is very interesting, and when looking at the excellent photograph at page 41 I could not help wishing that the two had been figured side by side, especially if their very different habits had been shown. It is fortunate that well-marked differences have been detected in the keels and crests of the lip, for otherwise the floral resemblance would have been embarrassing, and one can hardly conceive two such dissimilar plants bearing identical flowers. It is marvellous that the resemblance should be so close, and perhaps some of our authorities who inquire into the "reason of things" will tell us why it is so.

I thought we had not heard the last of the matter, and the issue of the *Gardeners' Magazine* for February 23rd (page 116) contains some observations by "H. J. C." After alluding to the plant being exhibited at the R. H. S. meeting, as already recorded, he proceeds:—

"It is certainly strange, when a plant is being sold and advertised for the owners under one name, after it has been in flower for some weeks at Kew, to be suddenly described as the true Phaius tuberculosus."

Well, "strange" things have happened, and happening "suddenly" seems to have been a little disconcerting. However, let us read on:—

"The specimen shown at the Drill Hall, I have no hesitation in saying, is unmistakably intermediate between Phaius Humblotii and the species we have known in cultivation for nearly twenty years as Phaius tuberculosus. Notwithstanding this fact, Mr. Rolfe now alters the name to P. simulans. I suppose the identity of this plant as a natural hybrid would not be admitted by the powers that be at the Royal Gardens, Kew. Dr. Lindley remarked,

when the first mule or garden-raised hybrid Orchid appeared, 'Why, you will drive the botanists mad,' and these feelings would appear to be still retained at Kew."

It is not quite clear how we should regard this singular agreement between the Kew authorities and Dr. Lindley, but let "H. J. C." proceed :—

"I do not for a moment say that Mr. Rolfe is not perfectly justified in stating what he may have discovered, but this case is a further instance of the botanist in his herbarium differing from the man who has a practical knowledge of the habits and structural peculiarities of the plants dealt with."

Of course, if Mr. Rolfe would only come out of his Herbarium, and see what an Orchid looks like when its alive, and find out all about its structural peculiarities, there is no telling what might happen; though we get an inkling of the matter in the next sentence :—

"I do not think there was a single practical man present at the Drill Hall, who knew the two species in cultivation, that did not readily recognize the intermediate characteristics of the plant there exhibited."

This shows the advantages of being practical; but we are coming to the point :—

"It appears that the Kew authorities refuse altogether to have anything to do with the naming of garden hybrids [? Ed. *Gard. Mag.*], yet they are evidently ready to recognize imported plants and class them as species, even when the intermediate characters of the two parents are so pronounced as in this case."

Now we know that the plant is a natural hybrid, and if only——. But let "H. J. C." finish :—

"Among Odontoglossums we have frequent introductions of hybrids which the botanists say cannot be such, because the species supposed to be the parents grow hundreds of miles apart. It is time such ideas were put on one side, and undoubted proofs recognized. The garden-raised mules are proving in many instances the manner in which many of the recognized good species of the botanist have originated. Travellers like Mr. W. Boxall tell us that many of the species supposed to be isolated 'grow together,' and although the great proportion, even of Cypripediums, flower at different seasons, stray flowers crop up and afford opportunities for cross breeding, and the proof of its taking place may be found in the frequency with which these natural hybrids make their appearance among importations

of plants. The sooner the authorities admit the possibility of natural hybrids, and name them as such, the better will their work be appreciated."

Now, let me see where we are. We have the Phaius, and Mr. Rolfe, and the Kew authorities, and the botanists who won't recognize natural hybrids, and H. J. C. Altogether things seem to have got a little mixed, for I remember a rather long series of articles on "Hybrid Odontoglossums," and a paper entitled "Hybridisation viewed from the standpoint of systematic botany," both by Mr. Rolfe, who has also given us his views on various natural hybrid Cattleyas, Lælias, Phalænopses, Dendrobiums, Cypripedes, and, I think, a few others. But then he overlooked the natural hybrid Phaius! *Hinc illæ lachrymæ.*

Curiously enough, your last issue contained three separate notes on natural hybrids by Mr. Rolfe, one of which contained the remark:—

"Natural hybrids are becoming a rather numerous class, and their study is attended with many difficulties, but I am trying to clear up their history and origin as far as possible."

The Phaius question I see cropped up again at the Drill Hall on February 26th, for a plant was exhibited by MM. Le Breton and Warpur as Phaius Warpuri, sp. nov., with the following note:—

"1. This is a new species, now introduced for the first time.

"2. Some authorities imagine it to be the same as Thouars' Limodorum tuberculosum, relying solely on a certain similarity in the tuft of hairs on the crest of the lip.

"3. A glance at the plant exhibited, however, will show the weakness of the opinion, because on the same stem there are two flowers out of three which have no tuft of hairs on the lip.

"4. It is therefore impossible to attach any importance whatever to such an obviously unreliable characteristic as a tuft of hairs, which may or may not be present.

"5. There is only a solitary flower of Thouars' original plant at the British Museum, but neither leaf nor pseudobulb.

Isleworth. JOHN WEATHERS."

And now where are we? It seems to be admitted that there is an authentic flower (as well as an authentic drawing), and one may ask the question whether the flowers of the two species are really so much alike that anyone who knows the difference between them cannot tell to which this authentic flower belongs?

There are two notes from a report in the *Gardeners' Chronicle* of the meeting of the Manchester Orchid Society held on January 24th, which are not unconnected with the question of Confusion in Nomenclature to which allusion was made last month. Respecting some Cypripediums exhibited we read:—"Two of the plants were apparently new, viz., C. nigratum (*sic*) and C.virens. They seem to be bastard forms of C. purpuratum." Now C. nigritum is a Bornean species which was described by Reichenbach in 1882, and C. virens of the same author, and from the same country, dates from 1863. C. purpuratum, it may be added, is a native of Hongkong, and I suppose that even for natural hybrids we must draw the line somewhere.

The other note refers to "a hybrid Dendrobium, the parents of which were D. nobile var. Cypheri × D. heterocarpum, and was given the dual name of D. hetero-Cypher (Award of Merit). Cypripedium × Lawre-Spicer came from the same grower." Whenever will it be remembered that all hybrids between Dendrobium nobile and D. aureum (syn. heterocarpum) are forms of D. × Ainsworthii? And how about Cypripedium × radiosum? I was once told that dual names were excellent, because they gave a clue to the parentage of a plant, and I remember reading that all attempts to combine the history of a plant in its name must necessarily end in failure. The latter remark at all events seems applicable to the present case.

"G. H. H." please note.

ARGUS.

CYPRIPEDIUM × SIMONII VAR. OBSCURUM.

IN *American Gardening*, vol. xx., p. 874, was given a figure of a supposed natural hybrid between Cypripedium insigne and C. Spicerianum. The plant from which the figure was made bloomed again last November, and a comparative study of garden hybrids related to it has furnished ample evidence on which to base the belief that it is a natural hybrid, the result of a cross between C. × Leeanum (not C. Spicerianum, as was at first supposed and suggested), and C. insigne. Such a combination would give C. × Simonii. For the form figured the name C. × Simonii var. obscurum has been suggested and seems well conceived. A coloured drawing of this natural hybrid may be seen in the library of the Massachusetts Horticultural Society—Oakes Ames, in *Amer. Gard.* xxi., pp. 44, 45, fig. 11.

I have only seen the drawing, but cannot avoid a suspicion that the point is not yet proved. About a year ago we were discussing the possibility of the first-named cross appearing as a wild plant (*O. R.* viii., p. 50), and if this latter view is correct the case is certainly remarkable.

R. A. R.

THE HISTORY OF ORCHID CULTIVATION.

(*Continued from vol.* viii., p. 335).

It was in 1828 that Lælia crispa appeared for the first time, being described and figured by Lindley in the *Botanical Register* (t. 1172) under the name of Cattleya crispa. The author remarked, "This splendid epiphyte was sent from Rio de Janeiro to the Horticultural Society by Sir Henry Chamberlayne, Bart., in 1826. It flowered in the stove in the Chiswick Garden in August, 1827. It is very distinct from all the other species of Cattleya, both in colour and in the form of the labellum and other segments of the flower. There are now five species of Cattleya upon record." A cultural note briefly states, "Cultivated in decayed vegetable mould, in which it grows freely."

Cattleya intermedia was also described and figured in 1829 for the first time (*Bot. Mag.* t. 2851). It flowered at the Glasgow Botanic Garden, and its history is thus given by Dr. Hooker:—"We received our specimens along with many other valuable plants from Mr. Harris, of Rio de Janeiro, by Capt. Graham, of his majesty's Packet Service, in 1824. They have been kept in the stove in pots of decayed bark; and the specimen now described flowered for the first time in Spring, 1826, but met with an accident before it could be figured or described. It bloomed for the second time in April last (1828), and remained in perfection several days. Other specimens, subjected to the same kind of treatment, have remained without the least alteration in their appearance since they were imported. The subject of the present notice is now pushing its roots freely over the pieces of bark."

Zygopetalum rostratum was another interesting addition of the year, being also figured and described in the *Botanical Magazine* (t. 2819), where Dr. Hooker remarks:—"It is with no small satisfaction that I am now able to give a second species of this handsome and curious genus, and one no less remarkable in the size and structure of its flowers. The credit of introducing this fine plant from Demerara to the Liverpool Botanic Garden is due to our excellent friend C. S. Parker, Esq. . . . It flowered in October, 1827."

In 1829 Cypripedium macranthon appears to have first flowered in cultivation, and was figured in the *Botanical Magazine* (t. 2938). It is said to be "quite new to our collections." We are told that "seeds had often been sent by Dr. Fischer, of St. Petersburgh, to the Glasgow Botanic Garden; but we never succeeded in cultivating it until last year, when roots were presented by the same liberal Botanist. One of these, from which the present figure and description were made, blossomed under the protection of a frame in May, 1829."

Stanhopea insignis also dates from 1829 (*Bot. Mag.* t. 2948-9). It was "communicated during the present month of October from His Majesty's

Royal Gardens at Kew, by John Frost, Esq., with the request that it might be called Stanhopea insignis, in compliment to the Right Hon. Philip Henry, Earl Stanhope, the noble President of the Medico-Botanical Society of London." It flowered in October 1827.

A foot note here supplies evidence of the appearance of our finest Zygopetalum. It is described as a splendid plant from the collection of Richard Harrison, Esq., of Aigburth, near Liverpool, having flowers twice the size of those of *Z.* Mackaii (previously figured), "and so much more brilliant in colour that Mr. Harrison and Mr. Shepherd were disposed to consider it a distinct species." The opinion was doubtless correct, for the note evidently refers to *Z.* intermedium.

Brassavola tuberculata (*Bot. Mag.*, t. 2878) is another novelty from the collection just mentioned, which flowered in July 1828. It was collected on tree-trunks, in rocky places at the entrance to Botafogo Bay, by H. Harrison, Esq., and the drawing was made by Mrs. Arnold Harrison.

One other addition made during 1829 deserves mention, namely, Dendrobium chrysanthum, which was figured in the *Botanical Register* (t. 1299). Lindley remarks that it was brought to England from the Calcutta Botanic Garden by Dr. Wallich, in 1828, and flowered in a stove in the Horticultural Society's garden in February, 1829.

A very curious plant described and figured in 1830, was Gongora viridipurpurea (*Bot. Mag.*, t. 2978), which was "communicated with a drawing from the rich collection of Aigburgh, by the kindness of Mrs. Arnold Harrison. It was gathered in woods, above Botafogo Bay, Brazil, by the brother of that lady, Henry Harrison, Esq. It flowered in June, 1829." It subsequently proved to be a species of Cirrhæa, a genus then only imperfectly known.

The species now known as Dendrobium Linawianum also appeared for the first time in the collection of William Cattley, Esq., of Barnet. It is a native of China and Japan, and was then thought to be identical with D. moniliforme, under which name it was figured in the *Botanical Register* (t. 1314). The next plate also shows D. longicornu, which was brought from India by Dr. Wallich, in 1828, and flowered in the garden of the Horticultural Society at Chiswick.

The hardy Cypripediums seem to have been pretty well known, for when figuring C. parviflorum (*Bot. Mag.*, t. 3024) Dr. Hooker remarked:—"I have been much gratified in the early part of the present month (May, 1830) with the beauty and variety of the Cypripedia, and the numerous specimens of each kind, flowering under a common frame in the Glasgow Botanic Garden, at one and the same time. C. macranthon, humile, spectabile, arietinum, pubescens, and parviflorum, seemed to vie with each other in the rich colours, or curious structure of their blossoms."

In 1831 Cattleya guttata flowered at Chiswick for the first time, and was figured in the *Botanical Register* (t. 1406). It had been sent from Brazil by the Right Hon. Robert Gordon.

Lycaste tetragona also appeared, being then described and figured under the name of Maxillaria tetragona (*Bot. Reg.*, t. 1428). It was imported from Rio de Janeiro by the Horticultural Society, in whose collection at Chiswick it flowered in June, 1830.

The most interesting novelty, however, of the year 1831 was Peristeria elata, which flowered in the collection of Richard Harrison, Esq., of Liverpool, and was figured in the *Botanical Magazine* (t. 3116). Its history was given at page 277 of our last volume.

The genus Coryanthes was also described from a plant which flowered in the Liverpool Botanic Garden, and which had been sent from Demerara by James Ankers, Esq. It was called C. maculata (*Bot. Mag.*, t. 3102). Another species was, however, already in cultivation, under the name of Gongora speciosa, and was now transferred to Coryanthes, as C. speciosa.

Oncidium bicornutum was also described and figured (*Bot. Mag.*, t. 3109). It flowered in the collection of Mrs. Arnold Harrison, who had received it from her brother at Rio de Janerio.

Two species of the Australian genus Pterostylis were also figured in the *Botanical Magazine*, both having been communicated from Kew, where they had flowered. They were P. nutans (t. 3085), and P. curta (t. 3086).

In 1832 Stanhopea eburnea appeared, and was figured in the *Botanical Register* (t. 1529). Lindley remarked:—"We are indebted for our knowledge of this noble epiphyte to James Bateman, Esq., who most obligingly sent us specimens from his rich collection of Orchideous plants at Knypersley Hall, near Congleton, in July last. It was introduced from Rio de Janeiro by Messrs. Loddiges, and Mr. Bateman remarked that one scape was broken off, and the other only preserved from a similar fate by breaking an opening through the sides of the pot. This seems to have been the first plant figured from a collection which afterwards became one of the most famous in the annals of Orchidology."

Angræcum superbum also now appeared, but was confounded with the allied A. eburneum, and figured under the latter name (*Bot. Reg.*, t. 1522). It was introduced from Madagascar by "the unfortunate Forbes," and flowered in the collection of the Horticultural Society in the November previous.

Other interesting introductions of the year were Brassavola Perrinii (*Bot. Reg.*, t. 1561), a Brazilian plant from the collection of Mrs. Arnold Harrison, after whose gardener, Perrin, it was named; Nanodes discolor (*l.c.*, t. 1541), a native of Rio de Janeiro, which flowered in the collection

of the Horticultural Society in August, 1829; Colax viridis, then called Maxillaria viridis (*l.c.*, t. 1510), a Brazilian species from the same collection; Oncidium cornigerum (*l.c.*, t. 1542), from the collection of the Hon. and Rev. W. Herbert; Epidendrum variegatum (*Bot. Mag.*, t. 3151), from the collection of Richard Harrison, Esq.; also Maxillaria picta (*l.c.*, t. 3154) and Colax placanthera, then called Maxillaria placanthera (t. 3173), both from the collection of Mrs. Arnold Harrison, who was also an accomplished artist, as may be seen by the figures in the work in question, which bear her name.

It is evident that the Harrisons exerted a great influence on Orchid culture about this period, and that Brazil was a never-failing source of novelties.

(*To be continued.*)

PHAIUS TUBERCULOSUS.

I OBSERVE a note in the *Gardeners' Magazine* for February 23rd (p. 116), by H. J. C., to the effect that the recently introduced Phaius is a natural hybrid between Phaius Humblotii and the species known in cultivation for nearly twenty years as P. tuberculosus. The writer adds that he has no hesitation in saying that the plant is unmistakably intermediate, and that the characters are so pronounced as to have been recognized by every practical man present. It is unfortunate that P. Humblotii was not present too, or H. J. C. would not have been quite so sure of his ground. I had previously been through the question, though with another object, and had these perfectly obvious intermediate characters been present I should hardly have overlooked them. H. J. C. does not tell us what they are, and I suspect that he had not P. Humblotii before him, or he must have seen that its crest is of a totally different character. In fact, there is nothing in the characters of the three plants, or in their distribution (for M. Warpur states that P. Humblotii grows far away from the other two), to warrant this confident opinion. Those who want plants of the true P. tuberculosus will never get it by crossing P. Humblotii and P. simulans.

A statement has also been publicly made, in another quarter, that it is impossible to say which species Thouars' orginal flower belongs to, in the absence of pseudobulbs and leaves. This, fortunately, is an entire misconception of the facts. The floral differences are well marked, and there is not the slightest doubt about the facts already stated. It is unfortunate that the mistake was made, and, now that it has been discovered, the best way out of the difficulty is to remedy it as quickly as possible.

R. A. ROLFE.

A GROUP OF DENDROBIUMS.

DENDROBIUMS are among the most popular of our winter and spring-flowering Orchids, and just now are making a grand display in collections. Among the species, Dendrobium nobile occupies the foremost place, and so extensively has it been intercrossed with allied species that its hybrids are also becoming a very numerous group, and they fortunately retain the free-growing habit and floriferousness of the parent. Five forms of D. nobile are shown in the annexed group, together with one of its hybrids, the latter being represented both by wild and artificially raised forms.

Fig. 10. DENDROBIUM × PITCHERIANUM. Fig. 9. D. × P. ROLFEÆ.
Fig. 11. D. NOBILE. Fig. 12. D. N. ALBIFLORUM.
Fig. 13. D. N. NOBILIUS. Fig. 14. D. N. SANDERIANUM.
Fig. 15. D. N. COOKSONIANUM.

D. × PITCHERIANUM (fig. 10) was described by Reichenbach in 1888 (*Gard. Chron.*, 1888, iii., p. 392) as follows:—" D. Pitcherianum, n. hyb. nat.—Mr. F. Sander kindly sends me a two-flowered raceme of what he supposes to be a natural hybrid between D. primulinum and D. nobile, asserting that the stem is quite like that of D. nobile, and wishing me to

name it in honour of Mr. J. R. Pitcher, Short Hills, New Jersey, U.S.N.A., a most enthusiastic Orchidist. The flowers are equal to those of a good D. primulinum. Both sepals and petals are much like those of that species, as they are rather narrow and straight. The ligulate, blunt sepals are whitish, rosy, with fine purple tips. The petals are broader with a deep purple tip, and a broad, distinct, rosy mid line from the tip to the base. It is an exceedingly curious and rare fact, that the colours of the flowers are far deeper outside. The lip is very interesting. From a short stalk, green at the base, it is enlarged into a heart-shaped, semi-oblong, subacute body. This, however, is the outline after artificial expansion, and it answers well the outline of the lip, not of D. primulinum, but of D. nobile. Normally the lip is involute at the base and subacute before the apex, thus making the sort of a *goitre* with a flat surrounding margin. Its colour is light sulphur. The callous abrupt line in the middle of the disc before the base is whitish. The apex of the lip is purple, and there are dark purple, nearly parallel stripes on both sides of this callous part. Both sides of the surface of the lip are most densely covered with very short hairs. The column is small, green with semisigmoid wings at the sides of the anther, and with a linear purple tooth in the middle of the back. There is no little hollow to be seen at the base of the column. It may, however, appear in the established plant. The anther looks quite abortive. It is very thin, its upper part looking like a purple Phrygian cap that has been made of an insufficient quantity of cloth. The bulbs and leaves are said to be like those of D. nobile. I think Mr. Sander's suggestion about the origin is quite right."

D. × P. ROLFEÆ (fig. 9).—Whether Messrs. Sander at once set about proving the parentage of the plant just mentioned is not quite clear, but in 1892 they flowered a hybrid raised from D. primulinum ♀ and D. nobile ♂, which they named D. × Rolfeæ (*Gard. Chron.*, 1892, xi., p. 522), without any reference to D. × Pitcherianum. Two years later a plant flowered in the collection of Major-Gen. E. S. Berkeley, of Southampton, out of an importation of D. nobile, which was considered as a form of the same hybrid, and described as D. × Rolfeæ roseum (*Orch. Rev.* ii., p. 114), the earlier D. × Pitcherianum being overlooked. Whether the original plant of D. × Pitcherianum still exists we do not know, and the type specimen is locked up in the Reichenbachian Herbarium and inaccessible, but the description of the disc is so characteristic that it is probably of the same origin. It cannot be said that the wild and artificially raised hybrids here figured are identical, but two or three other plants have since appeared, having similarly marked characteristics in the lip and disc, and it seems probable that all are forms of one variable hybrid. Further materials are necessary before the point can be considered quite settled.

D. NOBILE.—The remaining figures in the group are forms of D. nobile,

and serve to show some of the variation to which the species is subject. Fig. 11 represents a fairly typical form, out of an importation from Upper Burma, from which region a good many of the recent importations are believed to have come.

D. N. ALBIFLORUM (fig. 12) is a rather small form, having the flowers pure white, with the exception of the disc, which in very dark, blackish maroon in colour.

D. N. NOBILIUS (fig. 13) is a well-known variety, one of the largest known, and very richly coloured. It originally appeared about a quarter of a century ago.

D. N. SANDERIANUM (fig. 14) is smaller than the last, but nearly rivals it in the colour of the sepals and petals.

D. N. COOKSONIANUM (fig. 15), is remarkable for having the base of the petals coloured very much like the lip, and thus may be considered a peloriate form. It may be mentioned here that D. n. burfordiense has somewhat similar markings at the base of the lateral sepals.

A good many other varieties have been named and described, and a pretty complete account of them was given in the fourth volume of this work (pp. 147-150). We may also add that the beautiful albino D. n. virginale, which subsequently appeared, was described and figured at page 145 of our fifth volume.

ORCHIDS FROM RORAIMA.

THE last part of the *Transactions of the Linnean Society* is devoted to a "Report on two botanical collections made by Messrs. F. V. McConnell and J. J. Quelch at Mount Roraima in British Guiana," the said plants having been worked up at Kew. The Orchids are described by Mr. R. A. Rolfe, A.L.S., and include the ten following novelties:—Pleurothallis roraimensis, Stelis guianensis, Brachionidium brevicaudatum (an interesting addition to a small genus hitherto only known from the Andes and West Indies), Octomeria Connellii, O. parvifolia, Bulbophyllum roraimense, Houlletia roraimensis, Maxillaria Connellii, M. Quelchii, and Habenaria roraimensis. Orchids seem to occupy an important place in the Roraima flora, for it is noted that above an elevation of 5,000 feet, the Order comes first in point of numbers, while in the whole flora it is second only to Leguminosæ. Messrs. McConnell and Quelch first visited Roraima in the autumn of 1898, and on both occasions, not only encamped higher on the slopes than any previous traveller, but they spent nights on the summit in order that the time given to collecting its fauna and flora should be uninterrupted.

THE FUTURE OF THE CYPRIPEDE.

MR. JOHNSON makes some interesting remarks about Cypripedes at page 60, and I, for one, can fully endorse all that he says of them, and would very much like to see their more general cultivation. For beauty some of them are unique, and for lasting qualities when in flower they have no equal. At the time of writing (February 18th), we have a plant of C. × Arthurianum in flower which opened in November. It had eleven flowers in all. Only three are left; the rest have been cut—not because they were over, but for use—and those left, though past their best, are still good. The plant while in flower has stood amongst Odontoglossums in a Cool house. We have other varieties in the stove which have been in flower since various dates in December, and are still quite passable. With such a useful and accommodating class of plants as these, it makes some of the Orchids in general cultivation not worth growing, especially in the neighbourhood of large towns, where mills and factories abound. Take, for instance, Lælia anceps. After growing these plants for the year round, some of the coloured varieties did not last in flower with us more than two days perfect, and the white varieties not as long as we would wish. Unfortunately, the Cypripedium is not so popular round Liverpool as it is round Manchester, as a visit at any time during the winter months to one of the meetings of the Manchester and North of England Orchid Society will prove. I should very much like to see them more popular and more generally cultivated, which they richly deserve, for very often valuable room is wasted upon things which, be as careful as you may, will either not succeed with all your care, or only do so for a time and then deteriorate. Tastes, however, differ and must, of course, be considered, for whoever pays the piper has the sole right to select the tune.

THOMAS ARCHER.

West Derby, Liverpool.

Have you observed how many more flowers the hybrid Cypripedes have than the parent species—all save those having pardinum for one parent? Our × Rossianum blooms twice a year; a × Lathamianum now in flower (in a ten inch pot) has nineteen single flowers and three twin-flowered scapes, making twenty-five in all. Our hybrid Harrisianum roseum (much larger than the usual one) blooms from every vegetation, and I could go on giving you other instances. Possibly the climate here may have something to do with it, for with us C. superbiens flowers splendidly, and I believe it is a shy bloomer generally.

Florence.

JANET ROSS.

CULTURE OF CALANTHES.

THE species and hybrids of Calanthe undoubtedly deserve to be in the front rank of stove-flowering Orchids; the genus has also a special interest for amateurs on account of the many beautiful forms included in it, and because the spikes of bloom are exceedingly effective for decorative purposes generally. I allude to those of the deciduous section, that lose their leaves about the time the first flowers begin to open, such as C. rosea, the varieties of C. vestita, and the hybrids C. × Veitchii, C. × V. alba, C. × Victoria-Regina, C. × bella, C. × burfordiensis, C. × Sedenii, C. × Harrisii, C. × versicolor, C. × Phœbe, C. × William Murray, C. × Ariadne, &c. A few plants of each of the kinds enumerated would form a nice collection, and would afford an uninterrupted succession of flowers for about two months during mid-winter. The spikes, when cut, last for three weeks in a cool room. The flowering period of the above-mentioned varieties commences about the beginning of November, which, with the addition of C. vestita Turneri and its variety alba, continues well into the new year. Towards the end of January we have Calanthes of the Regnieri section, as C. Regnieri, C. Sanderiana, C. Stevensii, C. fausta, and C. Williamsii, which last till about the end of March or the beginning of April. It will therefore be seen that we have a succession of Calanthe flowers for at least a period of five months.

When the flowers are cut the bulbs require a thorough rest, in fact few Orchids will stand such a long period without water as these. No better place could be found for these plants while at rest than on a dry shelf, and close up to the roof in the warmest house, where the light will help to mature the last made pseudobulbs. It is always advisable to examine the plants occasionally, and clear every pseudobulb of the white and brown scales which commonly infest them. At this season (March) the first varieties mentioned have begun to grow, and the plants should be repotted when the new growths are a few inches high, or immediately before new roots appear, or these will probably be injured.

The compost used should be of a firmer or more retentive nature than that used for many other Orchids. After trying many different mixtures, I have succeeded best when the soil has been as follows:—three parts good, fibrous loam, the fourth part decayed leaf soil, with the addition of a moderate quantity of broken crocks and sharp silver sand; the whole being well mixed together. Having provided the compost, it should be placed a few days prior to use in a suitable place to get warm, otherwise the pseudobulbs may receive a check by potting directly into a cold compost.

The next operation is to select sound, clean pots, the sizes to vary according to the discretion of the cultivator, his requirements, and the number

of pseudobulbs he intends placing in each. Where the house room is limited, and a quantity of cut bloom is required, seven or eight inch pots are most convenient, because if larger are used the soil is liable to become sour through watering, and the roots will not take freely to it during the whole summer. The number of plants in each pot should be governed by the size of both pots and pseudobulbs. In seven inch pots place five or six of moderate size; if larger, three or four. In six inch pots put the same number of bulbs but of smaller size. If space is of little consequence it is an advantage to grow them singly in pots, as during the growing season each bulb can be treated separately, and when in bloom a better arrangement can be made in order to display the spikes to perfection. The latter has been my practice for many years, using five and six inch pots for the strongest bulbs, and proportionately smaller ones for the others.

Without doubt the successful cultivation of Calanthes depends considerably upon good drainage. The pots should be about half filled with clean broken crocks, over which place a thin layer of good turfy loam, with the grassy side downwards, or if preferable a layer of rough sphagnum moss may be used; this will prevent the drainage from becoming clogged.

When ready for repotting, turn the plants out of the pots, and shake them out of the old soil, cut off all roots of the previous year (which will be dead), leaving about one inch attached to the pseudobulb, which will help to keep the plant firmly fixed in the new compost. In filling the pots the soil should be shaken down moderately firm within one inch of the top, then place the bulb on the surface and add a little soil, pressing it firmly, so that the base of each bulb is covered about half an inch.

After potting, place the plants in the best position available in the East Indian or hottest house, and keep them well up to the roof glass to prevent the young growths from being drawn. I may mention that many gardeners grow these Calanthes to perfection in cucumber houses, ordinary plant stoves, and warm vineries. Afford no water at the root for a month or six weeks, merely occasionally damping the stage upon which they stand until the growths show signs of advancement. As the young growths strengthen and begin to unfold their leaves, a sprinkling may be given, but it must be done with discretion, as the tender growths are liable to quickly turn black if too much water be given at this period.

With careful attention the roots soon obtain a firm hold on the sides of the pot, and then the amount of water should be gradually increased, and when thoroughly rooted and growth is vigorous abundance of water is necessary; and an alternate watering with weak liquid cow-manure will tend to promote strong, healthy growth. When the young growths are seen pushing out quantities of new roots over the surface of the soil a top dressing of good, fibrous loam will be very beneficial to them.

Calanthes, when growing freely, enjoy a light position, but not too much direct sunshine, and if during the growing season the young growths become too crowded, the plants should be thinned out considerably, so that they may obtain sufficient light to invigorate and solidify the bulbs, and to counteract those diseases to which soft, sappy bulbs are liable.

Towards the end of the growing season, and just as the new pseudobulbs begin to form, the leaves of these deciduous Calanthes are frequently attacked with "spot," which later on invariably affects the bulbs and flower spikes. This disease is sometimes brought about, in the earlier stages of growth, by over-abundance of water before the plants are firmly established in the new potting material; by insufficient light; by too low temperatures combined with a saturated atmosphere; and also by incorrect ventilation. I have no doubt that many failures have resulted from these causes.

I know of one instance where a collection of these plants was exceptionally well cultivated for many years, in what was known as an East Indian house, and where numerous other species of Orchids were staged and suspended, but the latter general collection of Orchids failed to give satisfaction, from some cause. Various means were tried to attain success, and eventually it was decided to alter the mode of ventilation, which previously had been from the top only. This was changed, and air was admitted by the lower sashes. The general collection of Orchids improved considerably, but the alteration affected the Calanthes, and they soon became spotted and unsightly, and failed to produce strong flowering bulbs as formerly. I have also known the pseudobulbs and leaves of Calanthes to become diseased and spotted through over-feeding with manure-water, and by chemically prepared plant foods.

Towards the end of autumn, when the new pseudobulbs are fully grown, and the flower spikes appear, the regular application of manure-water should cease. The tips of the leaves will also commence to turn brown, and as the foliage decays so should the amount of water be gradually decreased, using no more than is necessary to keep the plants plump, and to duly sustain the advancing flower spikes. By the time the flowers are open water should be withheld altogether.

Calanthes may be readily increased by taking off the old back bulbs, and inserting them thickly in pots filled with sphagnum moss, standing them on a shelf close up to the glass, and sprinkling them overhead occasionally with a fine syringe. They will soon commence to grow, but just previous to the young roots starting they may be repotted and treated as advised for the older examples. If it is not necessary to increase the stock, the old bulbs, from which last year's growth was produced, may be left on the plant, because, so long as they retain their vitality, they will have great

influence in increasing the strength and size of the bulb formed during the coming season.

Plants that are now bearing capsules should be constantly watched, and immediately the pods appear to be bursting, a piece of tissue paper should be tied around them to prevent loss of seed. When the seed is quite ripe lay it on a dry shelf in the sun, and when the old plants have been repotted, and have commenced to root, the seed should be sown upon the soil where the greatest number of roots are. Until the seed germinates it should be kept just moist, using a very fine sprayer for the purpose. When the seedlings are up the plant may be suspended from the roof, and treated similarly to the older examples, but they must not be disturbed until the following spring. The best method, I have found, is to place several of these young bulbs around the edge of the smallest sized pots, and to suspend them well up to the roof glass of the house. They require assiduous care as regards watering, &c., but with generous and skilful treatment will flower in three or four years.

W. H. WHITE.

Burford.

AN AQUATIC ORCHID.

IN the last number of *Hooker's Icones Plantarum* a figure is given of a remarkable aquatic Orchid. It is Habenaria repens, Nutt. (t. 2686), and is described by Mr. Rolfe as follows :—

"A very distinct and widely diffused species, readily distinguished by its submersed creeping stems, without tubers, and numerous long roots. Dr. Rusby remarks that it is a characteristic water plant, and his specimen has a dense mass of roots at the base of the flowering stem, and Jenman records it as 'aquatic in 40 foot trench.' The upper part of the stem is erect, and bears several leaves, which gradually decrease in size up to the inflorescence."

It is aquatic or subaquatic, in marshes and ditches, and is found on the coast-lands of the Caribbean Sea and round the Gulf of Mexico to Florida and South Carolina, also in Cuba, Jamaica, British Guiana, the Lower Orinoco, and Brazil. The flowers are green, and are borne in oblong spikes, so that in this respect it resembles a good many others in the genus.

DIPLOCENTRUM CONGESTUM, Wight, is another remarkable Orchid of which a figure is given (t. 2687). It is a native of South India, and is an ally of Saccolabium, but differs in the possession of two spurs at the base of the lip, in which respect it resembles the genus Satyrium. It recently flowered in the Kew collection.

PAPHIOPEDILUM × BARON SCHRÖDER.

Our present figure represents the most interesting and beautiful Paphiopedilum × Baron Schröder, a hybrid raised by Messrs. James Veitch & Sons, Royal Exotic Nursery, Chelsea, from P. × œnanthum superbum ♀, and P. Fairrieanum ♂. It flowered for the first time in November, 1896, and received a First-class Certificate from the Royal Horticultural Society, on November 24th of that year. Our illustration is reproduced from a photograph of one of Messrs. Veitch's plants, taken; and kindly sent, by Mr. H. J. Chapman, of Camberwell. As regards

Fig. 16. Paphiopedilum × Baron Schröder.

the general character of the flower the photograph may be left to speak for itself, though it may be remarked that it combines much of the general character and markings of the pollen parent, with the richer colour of the mother plant. The dorsal sepal is heavily spotted with reddish-purple on a lighter ground, and the petals veined and suffused with similar colours, and prettily spotted on the lower half. It is a hybrid of the third generation, and four species are concerned in its ancestry, its composition being, P. Fairrieanum $\frac{1}{2}$, P. insigne $\frac{1}{4}$, and P. villosum and barbatum each $\frac{1}{8}$.

ORCHID NOMENCLATURE.

ANOTHER year (also century!) has gone, and yet this question remains where it was; ever present and ever passed by, and getting even more complex. The need of the Central Institution is greater than ever, and this week has given an additional proof of it. On Feburary 12th, Dendrobium × Wiganianum (nobile × Hildebrandii) appears at the R. H. S., and is given an Award of Merit. On the 16th I get my *Orchid Review*, and on page 37 I meet my new friend as D. × Ellisii. Both names have gone out to the world at large, and in next month's *Orchid Review* the report of the R. H. S. award will perforce be recorded. In this way the *Orchid Review* will innocently aid and abet what it always preaches against. This is a paradox that plainly shows the need of the Central Institution, to which the advent of a new hybrid could be at once reported and the name secured to one individual.

I do not for a moment think much of this plant having *two* names almost simultaneously given, for some hybrid "Cyps." (I will not write the other end of the word as I might put the wrong one) have many more than *two*.

"Argus," in April, 1900 (*O. R.*, p. 97), agreed "to consider whether any practical steps can be taken to bring it about." This "it" was the registration of new varieties, and it applies to hybrids in the same manner.

We have not had any result from his promise, and I suppose he is, like me, waiting for support to try to do something to establish some means whereby this crying evil can be remedied. Perhaps if he and I met we might make a start together, and issue a circular, as Captain C. C. Hurst has lately done in regard to his "Orchid Stud Book."

The real obstacle in the way is that there is no Orchid Society pure and simple. The R. H. S. cannot take up one branch of Horticulture and specialise it as much as we Orchidists want, because all the other branches (and all the twigs too) would immediately clamour for their special position. Not that I consider they would all have equal claims upon it, but then I, of course, am only a specialist in Orchids.

To establish the Orchid Society needs money to begin with, and there are only too many people who will quietly jog along as they now do when asked for a subscription, rather than do or give a little to help to eradicate what will become, in time, worse than "confusion confounded."

If they could only see how much they would save in purchasing only "registered" hybrids, they might be persuaded to be an original member of what would become a most interesting and useful Society.

Many people think that it would mean a secession of Orchid growers from the R. H. S., but I do not see that at all. There is ample room and need for both Societies to prosper and work together. The R. H. S. has

conceded to the wishes of the Orchid Committee in having paintings made of the plants certified, which have now become a very valuable record in the past four years, but then the Committee has paid half their cost to procure records whereon to base their judgment for the future in their voluntary labours. No one can over-estimate the use of this proceeding, and a Society which could afford to paint all new and worthy forms of species or new hybrids, whether certified or not, would amass the grandest record of Orchids ever got together. Individuals can do a great deal, but a Society can do far more, when it is properly managed, and perfect records could then be made. "Argus" once expressed a wish for a list of Odontoglossum crispum varieties. Has any complete list ever been compiled that any grower could purchase? No! And why not? How many hundreds of thousands of crispums are there now in cultivation, and yet there is no complete authentic information regarding them that he or I can consult to see if our newly bloomed prodigy is like any of its predecessors. If there is any "go" in the Orchid growing fraternity, let us try to make a Central Institution, and the sooner we begin the better, or this century will be where the last one is, (before we or our great grandchildren have one)—gone!

DE B. CRAWSHAY.

February 16th, 1901.

CALENDAR OF OPERATIONS FOR MARCH.

By H. A. BURBERRY, Orchid Specialist, King's Heath, Birmingham.

Now that the season of growth is rapidly advancing, the temperatures should be all owed a rise of a few degrees in all departments. The following figures will be a very good guide:—

COOL HOUSE.—Day, 60°; night, 50° to 55°.

INTERMEDIATE HOUSE.—Day, 65°; night, 55° to 60°.

EAST INDIAN HOUSE.—Day, 70°; night, 60° to 65°.

The atmospheric conditions should quite naturally follow the temperatures, and gradually become more exciting and favourable to free and healthy new growth. Damping down of the paths, stages, and walls may now quite safely take place two or more times a day in accordance with the amount of fire heat required. Still exercise great care in the matter of ventilation. The cold winds at this season are very searching, and rather than have the ventilators opened too wide it would be far safer not to open them at all unless the weather is mild.

The sun is now gaining a good deal of power, and during clear days will be sufficient to warm up the houses without the aid of fire heat. Sometimes, however, the sun pops out unexpectedly when the pipes have already been warm enough to maintain the required temperature. In such a case the houses

may possibly get uncomfortably hot, but rather than put on much air it would be far better for the plants to shade from the sun for a short period, so that the moist and genial growing atmosphere may not be rapidly winnowed away.

Watering should still be done most moderately until the repotting season is over. Do not water-log or saturate your plants, for the increased moisture they require just now can be very properly given by slight surface waterings, together with the extra moisture in the air. Do not, however, raise excessive moisture by syringing the warm pipes, a most ruinous thing to do.

The summer shading should now be fixed in position. It may, and should, not be required in general use for some few weeks to come, but it should be ready if the occasion arises. One example of the usefulness of timely shading is furnished above, and it may be added that for screening newly potted plants from bright sunshine for a time afterwards prevents undue shrivelling of the pseudobulbs and loss of foliage, and combined with keeping the surroundings moist gives a much better chance of their becoming quickly re-established. The kind of material employed for shading purposes is in my opinion of small moment so long as the effect is produced. If possible, however, it is preferable to raise whatever is used a few inches from the glass.

Lælias of the anceps and autumnalis type that have been resting and dry since blooming should now be repotted or top-dressed, as circumstances require, for roots will commence to push forth. It is a bad practice to let these—the white anceps class especially—grow up in the air and get too leggy before being attended to by bringing the leads down to a level with the compost. These straggling new growths can only push their new roots in the air, and consequently are apt to get smaller and weaker each succeeding year, especially if of a free-flowering variety. They should be reconstructed about every second year so that the new roots can soon reach the compost. The latter should be of peat and sphagnum moss in equal parts with liberal drainage. Pot culture is quite as good as baskets. Lælia majalis, the beautiful early summer flowering species, should always be grown in either pans or baskets and suspended. It has now had a good, long, dry rest, and will soon commence to push new growth. Still keep on the dry side for a few weeks. It is rather a shy bloomer, and to be too wet at this early date would only aggravate this undesirable trait. When the new growths are pretty prominent, say about an inch long, and the flower bud, if any is to appear, is safely formed within, a good watering may be given, and the plants should be encouraged to grow rapidly and strongly by a warm position in the Cattleya or East Indian house, until the season of blooming is over.

Thunias should now be repotted, which should be done a nnually without fail. Use a mixture of ordinary plant potting soil, and pot firmly, then place them in a very light sunny position in the Cattleya house, such as a shelf or somewhere near the glass, and water sparingly for a time until new roots are running freely. Under such treatment they bloom very freely. In potting up, select four stems of uniform size and secure in the centre of a 32 sized pot. This species is benefited by a little liquid cow manure water when about half made up, or, as soon as the flower buds can be felt in the newly forming stem.

Phaiuses are also terrestial growing Orchids, and generally very easy to cultivate, ordinary potting soil, being a mixture of fibrous loam, peat, leaf soil, and sharp sand, with an addition of small broken crocks to keep the whole open and porous, is likewise very suitable for these. Unless overgrowing the rim of the pot, about every other year is often enough to repot. Give a shallow drainage, and a good depth of soil, and do not build up the surface above the rim as in most other cases, or the work of watering is rendered very difficult. Pot moderately firm only, and take care that the roots are not bundled up all in a lump, but distributed about the new pot as naturally as possible, working the fresh soil between them. Water carefully for a time, and give them a shady position in the Cattleya house or the coldest moist one in the East Indian house

Habenarias, having been resting pretty dry on a shelf of the Intermediate or Warm house since autumn, and now denuded of foliage, will again be pushing new growth from the apex of the tubers. The above soil should be used for these. Turn them out of their pots, and clear off all old soil, repotting them again in clean ones. The pots should be small, a small 60 size being large enough for one tuber, and a large 60 for three. Place one crock only at the bottom, as the tubers being so long require the whole depth. To counteract this, mix small broken crocks more freely in the soil for these species, so that the drainage may remain perfect. Let the top of the tuber be on a level with the soil. Water of course very carefully until new growth is advanced, and give a position on a shelf in the Warm house.

Aërides, Angræcums, Sacolabiums, and Vandas are species that require shade and moisture, especially during the summer months, and are therefore suitable occupants of the stages in the East Indian house, whilst the roof is occupied by the Dendrobiums. These beautiful Old World Orchids have throughout the winter been kept as dry and as cool as it is safe to keep them. They cannot of course take the long droughts of pseudobulbous species, yet it is possible to keep them pretty dry with great advantage. They are now freely pushing out rootlets, and these should henceforth be kept rather freely supplied with water ; not so much direct to the pots or

cylinders in which they are secured, but to the surface thereof, and to the roots that are rambling at their own free will. This is easily done with a bucket of tepid soft water and a rose nozzled syringe, once or twice a day being sufficient. I do not mean that the plants should be deluged over head so as to fill the top centres with water at this early date, or trouble may ensue, but to the bottom leaves and roots much good results from the practice. Any lowering or repotting necessary may now be performed, filling up the pots with broken pots and charcoal to the rim, surfacing with a layer of clean sphagnum moss. If the charcoal or pots are new they should be soaked in water at least a day before using, so as to get thoroughly saturated.

Phalænopsis are other East Indian growing species that are frequently grown in baskets suspended from a shady roof, but can be wonderfully well cultivated in pots or cylinders placed down on the stages. They require exactly similar treatment in every particular, both for winter and summer, to the previously named genera. They may easily be starved during summer by an over dry, and sunny treatment—when every encouragement in the opposite direction should be given—or overdone during winter with too much heat and moisture, which then renders them tender, sappy, and liable to spot and other diseases.

Any small growing Angræcums, like citratum and Sanderianum, are best suspended, as they are apt to get overlooked on the stage. In addition to the Dendrobiums, which should occupy the roof of this department for the summer months, there are the following:—Catasetums, Mormodes Cycnoches, Coryanthes, Spathoglottis, and Aganisias, which all delight in similar conditions, and are now, after a long and complete rest, commencing to form new growths. They will now enjoy the moister conditions of this house for a start, but must not yet on any account receive large supplies of water at the roots, or the new growth, and probably the roots too, will rot. If any of these require new baskets, peat and moss with broken crocks well mixed and used up together is the best compost. Chysis is another genus which requires the same treatment. They are now breaking into growth, in which the flower buds are forming quite a prominent part, and will rapidly come out now that they are receiving more moisture.

Those who grow the beautiful Dendrobium Falconeri must not on any account grow it in the East Indian house; a shady position in the Cattleya House is more to its liking. The flower buds will soon push, but ot till then should it be removed from the Cool resting house.

Cleanliness is a great factor in good cultivation, and if scale, thrip, fly, or red spider abound, the chances are ten to one that the Orchids are in a sorry plight. Under good cultural conditions these pests are easily kept under with a little timely attention.

SOCIETIES.

ROYAL HORTICULTURAL.

ORCHIDS were fairly well represented at the Society's meeting at the Drill Hall, Buckingham Gate, Westminister, on February 12th, and several awards were made. The members of the Orchid Committee present were:— H. J. Veitch, Esq., in the chair, and Messrs. H. Ballantine, T. W. Bond, H. J. Chapman, W. Cobb, J. Douglas, E. Hill, C. J. Lucas, J. W. Odell, J. W. Potter, F. A. Rehder, F. J. Thorne, H. A. Tracy, W. H. Young, and J. O'Brien (hon. sec.).

G. Singer, Esq., Coundon Court, Coventry (gr. Mr. Collier), exhibited a small group of very well grown Orchids, containing a very fine Phalænopsis Sanderiana, the beautiful Cypripedium × Muriel Hollington, C. × aureum var. Surprise (× Sallieri Hyeanum × Spicerianum), a dark-coloured C. × Godseffianum, C. × Prewettii, and C. × Swinburnei magnificum. Awards of Merit were given to C. × T. W. Bond, Coundon Court var. (× Swanianum × hirsutissimum), a very fine form, and Odontoglossum × loochristiense coundonense, a noble specimen bearing seventeen fine flowers and buds. It is noted on page 93.

Sir F. Wigan, Bart., Clare Lawn, East Sheen (gr. Mr. Young), exhibited a fine rose-purple form of Phalænopsis Sanderiana, and a hybrid Dendrobium, derived from D. Hildebrandii ♀ and D. nobile ♂. It was called D. × Wiganianum and received an Award of Merit, but, being the reverse cross of D. × Ellisii, described at page 37 of our last issue, we should consider it a variety of that hybrid.

J. Colman, Esq., Gatton Park (gr. Mr. Bound), showed Zygopetalum Mackayi, a fine specimen with four spikes, and Angræcum hyaloides, a small Madagascar species, which was awarded a Botanical Certificate.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), sent two plants of Cypripedium × Pitcherianum Williams' var., showing some variation between the different flowers, and Eulophia pulchra, a Madagascar species, which received a Botanical Certificate.

W. Cobb, Esq., Dulcote, Tunbridge Wells (gr. Mr. Howes), staged Cypripedium × Schlesingerianum var. "Bassano," a grand form.

De B. Crawshay, Esq., Rosefield, Sevenoaks, sent a handsome dark form of Odontoglossum Rosii, having the petals and lip tinged with rosy lilac.

G. F. Moore, Esq., Chardwar, Bourton-on-the-Water, (gr. Mr. Morris), showed a grand form of Cattleya Percivaliana, with richly-coloured flowers; also flowers of the fine Cypripedium × Beekemanni.

Sir W. D. Pearson, Bart., M.P., Crawley (gr. Mr. Wadds), sent a good form of Cattleya Trianæ.

J. Rutherford, Esq., Beardwood, Blackburn (gr. Mr. Lupton), exhibited two good varieties of Odontoglossum × Adrianæ.

Mr. T. Rochford, Turnford Hall Nurseries, Broxbourne, received a First-class Certificate for Odontoglossum × loochristiense Rochfordianum, a grand form with bright yellow flowers, heavily blotched with chestnut brown. The central area of the petals and lip was white with reddish spots.

Messrs. F. Sander & Co., St. Albans, exhibited some good forms of Lælia pumila, including the original L. p. præstans from the Lueddemann collection, and a beautiful white form called Queen Alexandra, having the front of the lip coloured slate-blue and margined with white. The beautiful Cypripedium callosum Sanderæ and a dark form of C. Boxallii were also sent.

FIG. 17. LYCASTE SKINNERI ALBA.

Messrs. B. S. Williams & Son, Holloway, staged a small group including Dendrobium × burfordiense, some hybrid Cypripediums, Lycaste lasioglossa, and some good forms of L. Skinneri, including a very beautiful L. S. alba (Fig. 17 represents this varieiy, though from another source).

Messrs. H. Low & Co., Bush Hill Park, sent Cypripedium callosum giganteum, and a pretty form of Cattleya Trianæ, with slate-blue colouring on the front of the lip.

Messrs. Heath & Son, Cheltenham, showed a small group of hybrid Cypripediums, together with Oncidium maculatum, and some good forms of Lælia Jongheana.

At the meeting on February 26th, there was an extremely fine display of Orchids, doubtless partly owing to the mildness of the weather. The members of the Orchid Committee present were:—H. J. Veitch, Esq., in the chair, and Messrs. H. Ballantine, T. W. Bond, H. J. Chapman, J. Colman, De B. Crawshay, J. Douglas, E. Hill, H. Little, J. W. Odell, H. T. Pitt, H. M. Pollett, F. A. Rehder, F. Sander, W. Thompson, F. J. Thorne, H. A. Tracy, W. H. Young, and J. O'Brien (hon. sec.).

Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), staged a fine group, to which a Silver-gilt Flora Medal was awarded. Hybrid Dendrobiums were conspicuous, and included D. × Juno, D. × xanthocentrum, D. × Luna, D. × melanodiscus, D. × pallens, D. × The Pearl, &c. We noted also Phalænopsis Stuartiana aurea, P. S. punctatissima, P. × leucorrhoda, Dendrobium nobile burfordiense, with labelloid lateral sepals, Bulbophyllum Dayanum, Cypripedium × hirsuto-Sallieri, Odontoglossum × excellens and a good form of O. × Adrianæ. Sophronitis grandiflora Rossiteriana, a fine yellow form with four flowers, received a First-class Certificate, and D. × Rubens grandiflorum an Award of Merit.

The Right Hon. Lord Aldenham (gr. Mr. Beckett), showed a group of eight splendid specimens of Cœlogyne cristata, covered with fine flower spikes, for which he received a Cultural Commendation. They included var. Lemoniana and the Chatsworth var., and being set up with good plants of Thyrsacanthus rutilans, showed off to great advantage.

J. Colman, Esq., Gatton Park (gr. Mr. Bound), staged a fine group, to which a Silver Flora Medal was awarded. It contained some good forms of Dendrobium nobile, including D. n. Cooksoni, D. n. nobilius; D. × cheltenhamense, D. aureum, Lycaste costata, Epiphronitis × Veitchii, Cymbidium eburneum, Zygopetalum Mackayi, and some varieties of Lælia anceps.

J. Rutherford, Esq., M.P., Beardwood, Blackburn (gr. Mr. Lupton), showed a nice group, which was awarded a Silver Flora Medal. The group contained some good Odontoglossum crispum, including O. c. decorum, and other varieties; some fine forms of Cattleya Trianæ, including C. T. eximia; Cochlioda Noetzliana, aud a well-grown example of Lælio-cattleya × Admiral Dewey.

C. J. Lucas, Esq., Warnham Court (gr. Mr. Duncan), exhibited several plants of the handsome Lælio-cattleya × warnhamiensis (C. Trianæ × L. cinnabarina), for which he was awarded a First-class Certificate.

Captain Holford, Westonbirt, Tetbury (gr. Mr. Chapman), sent a very fine form of Cypripedium villosum, a handsome Cattleya Trianæ, a fine spike of Cymbidium Lowianum, and Odontoglossum × Adrianæ Mrs. Robert Benson. The latter, a large, cream white, finely spotted variety, received an Award of Merit.

J. S. Moss, Esq., Wintershill, Bishop's Waltham, showed a fine variety of Lælia Jongheana and Odontoglossum × Coradinei Mrs. De B. Crawshay. The latter, a very fine form, received an Award of Merit.

The Hon. Walter Rothschild, Tring Park, Tring (gr. Mr. Hill), exhibited Lælio-cattleya × intermedio-flava, a richly coloured form of Schomburgkia undulata and a fine five-branched spike of Phalænopsis Aphrodite, with twenty-four very large flowers. The latter received a Cultural Commendation.

F. W. Moore, Esq., Glasnevin, Dublin, sent the curious Cœlogyne sulphurea, with tawny-yellow flowers, which received a Botanical Certificate.

Mrs. Briggs-Bury, Bank House, Accrington (gr. Mr. Wilkinson), sent a spike of a fine form of Cymbidium grandiflorum (Hookerianum.)

J. T. Bennett-Poë, Esq., Holmewood, Cheshunt (gr. Mr. Downes), exhibited Cypripedium × Gætano, allied to C. × Pitcherianum.

J. G. Fowler, Esq., Glebelands, South Woodford (gr. Mr. Davis), showed Cypripedium × Miss Louisa Fowler (Chamberlainianum × insigne Chantini) and a rich form of Cochlioda Noetzliana.

C. L. N. Ingram, Esq., Godalming (gr. Mr. Bond), showed Cattleya × Zephyra (Schrœderæ × Dowiana aurea), a pretty blush-pink flower, with some yellow veining on the lip.

E. de Q. Quincey, Esq., Chistlehurst (gr. Mr. Lees), sent a hybrid Cypripedium.

Sir F. Wigan, Bart., Clare Lawn, East Sheen (gr. Mr. Young), showed some spikes of Phaius simulans, Rolfe.

Messrs. J. Veitch & Sons, Chelsea, staged a superb group, which received a Silver gilt Flora Medal. It contained a fine series of hybrids, conspicuous among them being Dendrobium × Ainsworthii intertextum, D. × A. splendidissimum, D. × euosmum virginale, D × Socius, some good D. × Wiganiæ, D. × Schneiderianum, the handsome Lælio-cattleya × Dominiana longleyensis, L.-c. × Myra, the handsome L.-c. × Coronis, L.-c. × Pallas, some good L.-c. × callistoglossa, Cattleya × Empress Frederick, Lælia × Mrs. M. Gratrix, Sophrolælia × læta, some good examples of Epidendrum × Clarissa, E. × O'Brienianum, Phaius amabilis Phalænopsis × Hebe, P . × Mrs. J. H. Veitch, and P. rosea leucaspis. The Cypripedium group was also represented by a fine series of hybrid forms.

Mr. J. Cypher, Cheltenham, stayed a fine group of Dendrobiums, which received a Silver Flora Medal. It contained good forms of D. nobile, including D. n. nobilius, D. Ainsworthii splendidissum, and other forms, D. × atroviolaceum, D. × Kenneth, D. × Burberryanum, D. × Virgil, and D. barbatulum.

Messrs. Le Breton and Warpur, care of Mr. J. Weathers, Silverhall

Nursery, Isleworth, showed the true Phaius tuberculosus (Warpuri), which they have recently introduced.

Messrs. F. Sander & Co., St. Albans, exhibited a handsome hybrid Zygopetalum and a natural hybrid Odontoglossum.

ORCHIDS IN SEASON.

CATTLEYA TRIANÆ is one of most beautiful Orchids now flowering in our collections, and fortunate are they who are outside the fog area, for they alone see the plant at its best. Round London, for example, one rarely sees the plant in perfection, and during the present season, when fogs have not been prevalent, we have seen quite a number of flowers all of which had the sepals more or less damaged towards the apex. The petals and lip were perfect, and the reason is that they are inside until the flower opens, and thus are protected from the action of the deleterious gases which abound in the neighbourhood of large towns and manufacturing districts at this season, while the sepals are exposed to their influence from the moment they excape from the sheath. The results we are all too familiar with, and it is a pleasure to see a good collection of these plants flowering in the pure air, with the flowers perfect throughout. It is marvellous how great is the amount of variation seen in a good collection.

Four very beautiful flowers are sent from the collection of F. G. Scott, Esq., Preston, North Shields, by Mr. Knight. One very fine flower has deep blush pink sepals and petals of perfect shape, and a much expanded, very richly coloured lip, with the usual deep yellow throat. A second is smaller, with the lip about typical, but the inner halves of the lateral sepals are deep yellow like the throat of the lip and somewhat infolded at the margin. This is the character of the variety Vanneriana. A third distinct form has the sepals unusually broad, and, with the petals, deep blush pink, and the lip rich purple crimson, with the disc entirely veined with white and purple, and the yellow suppressed. A fourth is blush white, with a small area at the apex of the lip purple, and the side lobes suffused with pink.

Three good, richly coloured forms are also sent from the collection of Joseph Broome, Esq., Sunny Hill, Llandudno, the finest being from a plant bearing eleven flowers. Mr. Broome remarks that there is nothing special in the treatment given, though they show the effect of the pure air and sunshine of the district; also that for high winds, cold, and snow this winter has been the most unfavourable he has experienced during the ten of his sojourn there.

The most remarkable form comes from the collection of Messrs. Hugh Low & Co., Bush Hill Park. The lip is very broad and expanded, and the

disc and throath is entirely veined with yellow and white, while in front of this is a rich crimson area, with a lilac margin. The sepals and petals are broad, perfect in shape, and deep pink blush in colour. It came out of an importation of C. Trianæ, and is evidently a form of it, though the veining is remarkable, and the whole flower is very beautiful.

A very good form from the collection of J. W. Arkle, Esq., Holly Mount, West Derby, has the lip very richly coloured, with the yellow in the throat very much reduced, and the petals veined with purple near the apex. It may be referred to C. T. Backhousiana. A second form is very large, having the petals slightly over three inches broad, and the shape very good, with the colour about typical.

Two light-coloured forms are sent by Capt. C. C. Hurst, Burbage Grove, Hinckley, one of which has the petals and lip much elongated, the latter reaching 3½ inches long. Three good forms of Paphiopedilum × Hera are also sent. The variety Hurstii is a richly coloured form which has been figured in the *Dict. Icon. des Orch.*

Some splendidly grown flowers of Lycaste Skinneri are sent from the collection of Joseph Broome, Esq., which show how effective the species is when thus grown. A flower of Lælio-cattleya × Gravesiæ shows the peculiarity of having the dorsal sepal united to the back of the column. The other flower on the spike is deformed in a similar way. A raceme of the rare and pretty little Odontoglossum crinitum is also worthy of mention.

A good, heavily-marked flower of Odontoglossum Rossii rubescens is sent from the collection of R. G. Thwaites, Esq., of Streatham, also a flower of the charming hybrid Denbrobium × Kenneth, with a small, deep maroon, feathered blotch on the lip.

BARON HRUBY'S COLLECTION OF ORCHIDS.

THE *Gardeners' Chronicle* for February 2nd contains the following (page 78):—"We learn that the Baron is parting with his well known collection of Orchids owing to the difficulty he unfortunately experienced in obtaining the services of skilled cultivators; and through the good offices of the Lord High Steward, His Serene Highness Fürst von Montenuovo, the collection will pass by purchase into the possession of H. I. M. Kaiser Franz Joseph, and be united to the collection already existing at Schonbrunn, which with this addition, will number 1,400 examples, being one of the most extensive on the continent. The Schonbrunn collection of hybrid orchids will shortly be enriched by an immense number of hybrids in great variety, which have already excited the interest of hybridists in England and Belgium."

THE HYBRIDIST.

DENDROBIUM × MANTINII.—This is said to be the first hybrid Dendrobium raised in France, and it is a very interesting one. Its parents are said to have been D. nobile and D. fimbriatum oculatum, and its raiser M. G. Mantin, Chateau de Bel Air, near Paris. In general character it most resembles D. nobile, except that the lip is more open and acuminate, and the ground colour of the segments is not white, but suffused with yellow at the base and along the middle nerve, while at the apex they are blotched with purple. We hope to see a flower on some future occasion, for we believe that D. fimbriatum oculatum has generally been considered a rather intractable plant by hybridists.—*Le Jardin*, 1900, p. 7.

PAPHIOPEDILUM × BARBEYÆ.—About ten years ago M. Jolibois, of Paris, raised a hybrid between Paphiopedilum Lawrenceanum ♀ and P. tonsum ♂. The reverse cross has now flowered, in the collection of O. O. Wrigley, Esq., Bridge Hall, Bury, in this case P. Lawrenceanum atrorubens being the pollen parent. The flower sent is thoroughly intermediate, the petals being nearly horizontal, though most like P. tonsum in shape, colour, and markings, and having also a few marginal warts and a distinct ciliation. The dorsal sepal shows much of the influence of the pollen parent, both in shape and colour, while the other parts are intermediate in character. It shows unmistakable evidence of its origin, and is likely to be a vigorous growing plant.

PHRAGMIPEDILUM × SUAVE.—We have now a hybrid from Phragmipedilum Klotzschianum. At the Royal Horticultural Society's Meeting on February 26th, a plant was exhibited by Messrs. James Veitch & Sons, of Chelsea, which had been obtained from P. × Sedeni candidulum ♀ and P. Klotzschianum ♂. It showed the usual intermediate characters, with an approach to the seed bearer in the details of the flower.

ODONTOGLOSSUM × LOOCHRISTIENSE COUNDONENSE.

A FLOWER of the beautiful Odontoglossum × loochristiense coundonense, to which an Award of Merit was given by the R. H. S. on February 12th, is sent from the collection of G. Singer, Esq., Coundon Court, Coventry through Messrs. Hugh Low & Co. It measures upwards of $4\frac{1}{4}$ inches across its broadest diameter, and the segments are beautifully blotched with light brown on a light yellow ground. The spikes are equally fine, being nearly four feet long and bearing seventeen flowers. Mr. Singer states that it flowered out of a batch of fifty imported Odontoglossum crispums obtained from Messrs. Hugh Low & Co., and has not previously flowered. It is a splendid example of good culture. It had been suggested

that such strong spikes would be more frequently seen if the plants were not allowed to bloom every year, and we quite agree that it is good policy not to let weak plants exhaust themselves by over-flowering.

NOTES.

Two meetings of the Royal Horticultural Society will be held at the Drill Hall, Buckingham Gate, Westminster, during March, on the 12th and 26th respectively, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

On the latter date a lecture will be given at 3 o'clock p.m., by Mr. W. H. White, Orchid grower to Sir Trevor Lawrence, Bart., Burford, Dorking, on "Inconspicuous and Rarely Cultivated Orchids," a subject for which he should find plenty of illustrations in the rich and varied collection under his charge.

Meetings of the Manchester and North of England Orchid Society will be held at the Coal Exchange, Manchester, on March 7th and 21st. The Committee meets at noon and the exhibits are open to inspection from 1 o'clock until 3 p.m.

Honour for Mr. G. Crispin.—At the annual meeting of the incorporated Society of Heating and Ventilating Engineers, held on Tuesday last at the Holborn Restaurant, London, Mr. George Crispin, of the firm of Messrs. James Crispin, F.R.H.S., and Sons, Horticultural Engineers, of Bristol, was unanimously elected to the vacant seat on the council of the society. The council is composed of the most eminent heating and ventilating specialists in the United Kingdom, and Mr. Crispin is to be congratulated on such an honour.

We regret to hear of the death, on February 7th last, of Mrs. James Cypher, the wife of Mr. James Cypher, the well-known Nurseryman and Orchidist, of Cheltenham, aged 72 years. The funeral took place on February 11th.

A remarkable specimen of Barkeria Lindleyana has just flowered in the collection of Sir Trevor Lawrence, Bart., Burford, Dorking. It produced no less than twenty spikes, with an aggregate of over 200 flowers, and these, after having been out for upwards of two months, the last fortnight of which they had been cut, and used for decorative purposes, were sent to give some idea of what the plant has been like. Even after this they remained upwards of another week without much deterioration in their beauty. The spikes form quite a small boquet, and the effect under artificia light is most brilliant. Mr. White must be congratulated on his success with this beautiful plant.

A fine inflorescence of the graceful and beautiful Dendrobium Fytchianum is sent from the same collection. It bears thirty of its charming white flowers, and one can imagine the effect produced by a group of plants suspended from the roof and flowering in profusion, as now seen at Burford.

An inflorescence of Dendrobium × Cordelia bearing the somewhat unusual number of five flowers is also sent, and like the preceding examples it shows the effect produced by good culture.

A very richly coloured form of Dendrobium nobile is sent from the collection of F. M. Burton, Esq., Highfield, Gainsborough. It is not quite identical with any named form we are familiar with, but comes in somewhere between the type and the variety nobilius.

A very good form of Paphiopedilum × Crossianum is also sent from the same collection, which differs from the type in its richer colour, and numerous purple spots on the petals. Several fairly typical forms also flowered out of the same batch of seedlings.

Several fine flowers of Dendrobium Wardianum are sent from the collection of F. G. Scott, Esq., Preston, North Shields, by Mr. Knight, which show what this beautiful species is capable of when well grown.

Respecting the culture of the beautiful Phaius simulans, we have heard from two different sources that the plant has been found to succeed best in an intermediate temperature. With too much heat the plants are said to dwindle away.

A plant of Paphiopedilum Appletonianum has flowered in the collection of G. W. Law-Schofield, Esq., among imported plants of P. callosum. It is now well-known that the two species grow together.

A very pretty form of Dendrobium × Ainsworthii is also sent from the same collection, which has the sepals and petals prettily tinged with blush pink, and the blotch on the lip proportionately very large.

LYCASTE × JANETÆ.

THE Lycaste which you did me the honour to name after me (Skinneri × Rossianum) has bloomed profusely. We have twelve pots, all strong plants, out of one seed pod. Two have rose coloured sepals and petals with light yellow lip; three are canary yellow with dark yellow lip and a few darkish spots on the sepals near the lip; and two are apple green fading into yellow, with a yellow lip. The others have not yet bloomed.

Florence. JANET ROSS.

ORCHID PORTRAITS.

CALANTHE × GIGAS.—*Journ. Hort.*, 1900, xlii. p. 129, with fig.

CATTLEYA × LANSBERGEI.—*Lindenia*, t. 725. This is a form of C. × Fabia.

CHYSIS LÆVIS, Lindl.—*Lindenia*, t. 726.

CŒLOGYNE CRISTATA (specimen plant).—*Journ. Hort.*, 1900, xlii, pp. 149, 151, with fig.

CYNORCHIS PURPURASCENS, Thouars.—*Gard. Chron.*, 1900, xxix, pp. 86, 87, fig. 37.

CYPRIPEDIUM × H. HANNINGTON.—*Garden*, 1900, lix, p. 107, with fig.

CYPRIPEDIUM × LANSBERGEÆ.—*Lindenia*, t. 727.

CYPRIPEDIUM × T. W. BOND, COUNDON COURT VAR.—*Gard. Chron.*, 1900, xxix, pp. 114, 127, fig. 51; *Journ. Hort.*, 1900, xlii, p. 169, with fig.

DENDROBIUM ASHWORTHIÆ.—*Gard. Chron.*, 1900, xxix, p. 86, fig. 36.

LÆLIA ANCEPS SCHRŒDERIANA.—*Gard. Chron.*, 1900, xxix, pp. 87, 94, fig. 39.

LÆLIA GRANDIS TENEBROSA.—*Rev. Hort.*, 1900, p. 68, with plate.

ODONTOGLOSSUM × LOOCHRISTIENSE ROCHFORDIANUM.—*Journ. Hort.*, 1900, xlii, p. 149, with fig.

ODONTOGLOSSUM NEVADENSE ROSEFIELDENSE.—*Journ. Hort.*, 1900, xlii, p. 109, with fig.; *Gard. Mag.*, 1900, p. 97, with fig.

PHAIUS TUBERCULOSUS, Blume.—*Garden*, 1900, lix, p. 97, with fig.

SCHOMBURGKIA HUMBLOTII, Rchb. f.—*Lindenia*, t. 728.

CORRESPONDENCE. &c.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they may have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.)

R. G. T. The Dendrobium sent as Winn's seedling we take to be a small form of D. × Rubens, but not at present at all equal to the original one. The flower is, as it should be, about three-fourths D. nobile.

H. G. A. Lycaste lasioglossa.

J. W. A. Lœlia crispilabia.

E. R. We have succeeded in finding a description of Cypripidium insigne Dorothy, and with that your flower agrees fairly well, except in being rather smaller, which, however, may arise from the plant being weak. You do not say at which sale it was purchased, but this might afford a clue as to whether it was authentic.

J. R. Box duly received, with leaf and portion of peduncle, but the flowers were missing—evidently "appropriated" during transit.

M. O. S. Report not yet to hand.

Photographs received, with thanks. O. O. W., H. J. C., G. I'A.

Received. E. F. C., W. H. W., J. B., W. K.

We have received the descriptive Catalogue of Orchids issued by Messrs. Charlesworth and Co., Heaton, Bradford, for the present year, containing particulars of a large selection of species and hybrids.

Also the General Catalogue of Orchids issued by Mr. A. J. Keeling, Cottingley, Bingley, Yorks, containing a selection of the more popular kinds.

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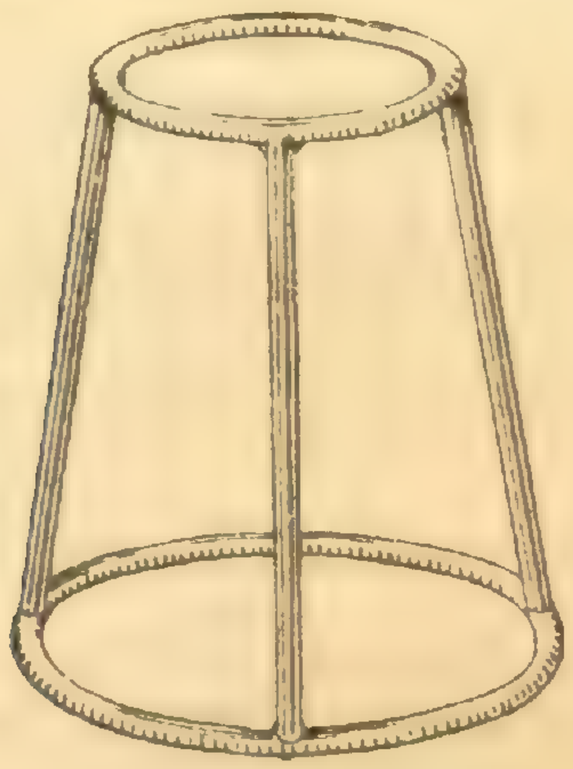

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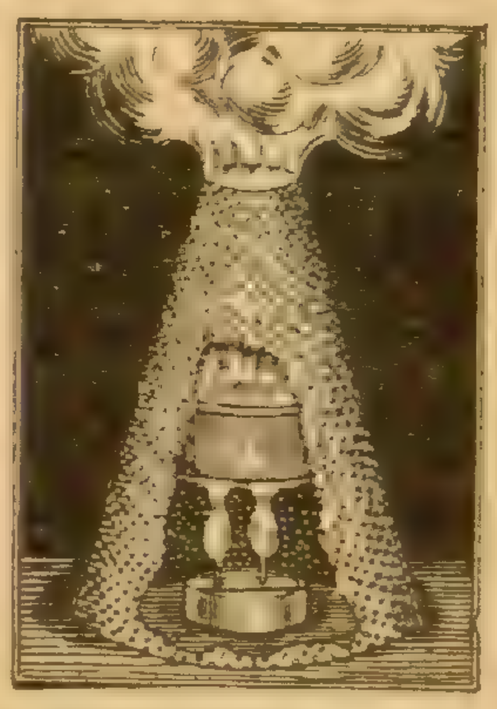

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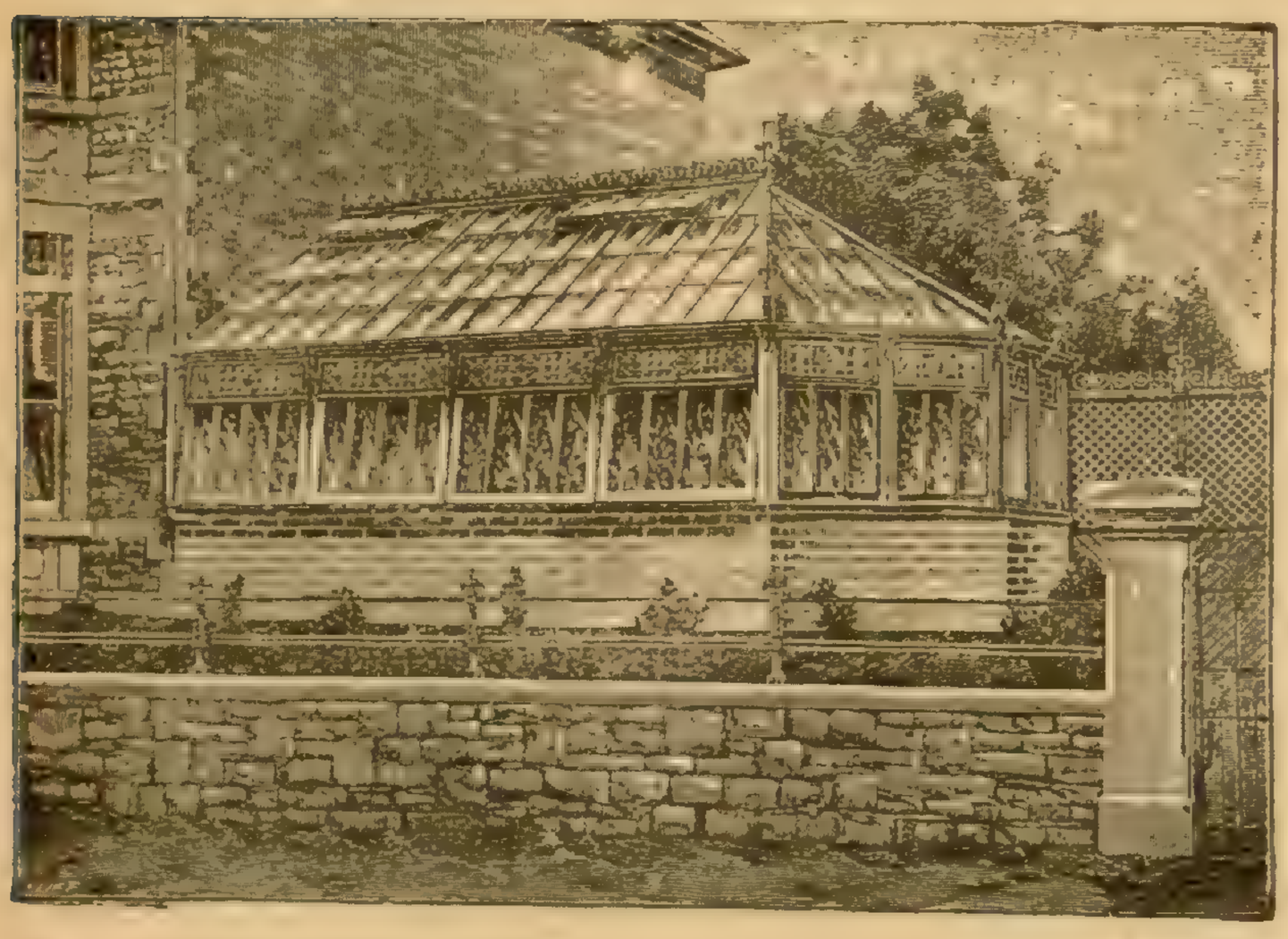

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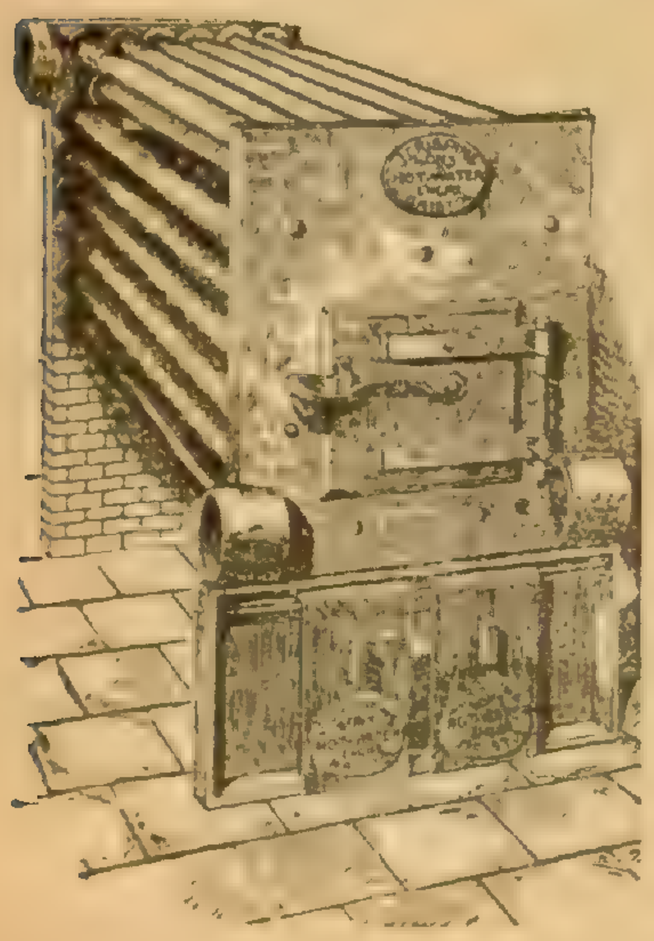

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THE ORCHID REVIEW:

An Illustrated Monthly Journal,

DEVOTED TO ORCHIDOLOGY.

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THE ORCHID REVIEW.

VOL. IX.] *APRIL*, 1901. [No. 100.

DIES ORCHIDIANÆ.

I SEE that Mr. Crawshay, at page 82, again raises the question of forming an Orchid Society, apparently in the hopes of putting a stop to the growing confusion in nomenclature. Thus the idea appears in a somewhat novel form. The formation of an Orchid Society has been suggested on several occasions, and would probably have been established long ago had it not been felt that such a movement would clash with the interests of the Royal Horticultural Society. I believe that the formation of an Orchid Committee by this Society, in 1889, was really an attempt to compromise the two sets of ideas, and on the whole the arrangement has worked well. Mr. Crawshay's idea, however, seems to be something quite different. It is, to make a sort of Central Institution for the registration of novelties, whether varieties or hybrids, and where I suppose paintings, drawings, or photographs would be made and preserved, and perhaps the flowers also dried for future reference, by the Secretary, Curator, or Librarian, or whatever the presiding genius of the Institution might be called. Of course, a set of rules would be drawn up, to which everybody would conform—if they liked, just as they do at present.

Mr. Crawshay reminds me that I once promised to consider whether some steps could not be taken to effect the registration of novelties, but the promise has hitherto been without result. Well, the simple fact is, that at present the difficulties seem insuperable, and I am not very hopeful of the present proposal. The confusion complained of is not by any means confined to unregistered varieties and hybrids, and existing rules would prevent most of it if they were properly enforced. If a new society were organized to look after the latter point, something possibly might result.

Mr. Crawshay alludes to a wish for a list of Odontoglossum crispum varieties, and asks, "Has any complete list ever been compiled that any grower could purchase, so that he might consult it to see if his newly-bloomed prodigy is like any of its predecessors?" But there happens to be such a list of Cattleya Trianæ varieties (*Orch. Rev.* iii., pp. 114-119), and will Mr. Crawshay tell us how many "new" varieties have since been recorded, and how they differ from pre-existing ones? Whether a list of O. crispum varieties would be more effective in preventing confusion is problematical, but in any case I thought Mr. Crawshay himself was to give us such a list. Perhaps it grows faster than he can keep pace with. Does not every meeting add to the number? And then of course one has to point out how they all differ from their predecessors, which naturally takes time, and might even tax the powers of a Central Institution.

By the way, it never seems to occur to anybody to stop making new varieties until we have found out what the old ones are like. I commend the point to the makers of new varieties, for a little research among the literature of existing varieties might throw a quite unexpected light upon the question.

Last month I had occasion to mention the "natural hybrid" Phaius. Now I see a statement at page 72 that Phaius tuberculosus is not a natural hybrid at all. I suppose our hybridists will now get to work and give us their views on the matter. It is just as well that the question should be settled once for all.

It is rather interesting to find that we have an aquatic Orchid (see page 80), and it would be a very interesting addition to a collection of Botanical Orchids if someone could succeed in introducirg it. No doubt it would succeed in a warm tank, and would be something of a novelty at all events.

Speaking of Botanical Orchids reminds me of Mr. White's paper on "Inconspicuous and rarely-cultivated Orchids," which was read for the author by Sir Trevor Lawrence at the last meeting of the R.H.S. Mr. White is well qualified to deal with the question, for in the collection under his care such plants receive special attention. No one has done more to popularise this somewhat neglected class than Sir Trevor Lawrence, whose exhibits at the Temple Show, and the various meetings at the Drill Hall, invariably attract a great deal of attention, and on the present occasion the subject was illustrated by a series of over twenty most interesting little plants, many of which are extremely rare in private collections.

A good many interesting facts were alluded to in the paper, one of which was the extreme beauty of many of these apparently insignificant plants when seen through a lens. I think it was Reichenbach who once remarked that an Orchidist should be armed with a large lens; and a drawing by Mr. Macfarlane of the remarkable Pleurothallis ornatus, magnified eight times, which was shown by Sir Trevor, served to emphasise the remark. The construction and mechanical arrangements which serve to secure the cross-fertilisation of the flowers by insects were also alluded to.

Allusion was also made to the zeal and enterprise of the collectors by which so many of these species had been introduced, and under this heading I believe that a great deal might be said, as also of the numerous curiosities which have been accidentally introduced with their more showy brethren.

The paper will no doubt be published in full in the Society's *Journal*, and I can only hope that it will help to popularise these interesting little plants, which certainly deserve "some little care, some little attention, and some little consideration."

ARGUS.

NATURAL HYBRID LYCASTES.

THE appearance of a remarkable Lycaste in an importation of L. Skinneri made by M. Florent Claes, of Brussels, again calls attention to the occurrence of natural hybrids in the genus, and furnishes an opportunity for an outline of our present knowledge of the subject.

LYCASTE × SULPHUREA (Rchb. f. in *Gard. Chron.*, 1882, xvii., p. 218), is the earliest natural hybrid Lycaste that I have discovered, and was described as follows:—"This has a smaller flower than a good Lycaste cruenta. The sepals are more acute; the superior sepal ligulate acute, the side ones oblong, markedly acute, all pallid sulphur coloured, with very small red blotches inside; petals oblong, apiculate, light sulphur coloured, with a few brownish purple spots, and a large, dark purple blotch at the base. Lip pallid sulphur, purple between the side laciniæ internally; callus and angles of the side laciniæ inside deeper yellow, nearly orange; column much like that of L. cruenta, plump, short, broad at the base, light sulphur, deep brown purple at the base, with brown purple spots above. There are not so many hairs at the base as in L. cruenta. I suppose this to be a cross between Lycaste Deppei and cruenta. Curiously enough, it appeared nearly at the same time with Mr. Williams' L. Deppei punctatissima. I have obtained what I have seen of this plant from Mr. W. Bull." I have not seen this plant and should like to know if it is still in existence.

The Lycaste Deppei punctatissima, mentioned in the preceding paragraph, had just been described as a new variety (Rchb. f. in *Gard. Chron.*, 1881, xvi., p. 717), the author remarking :—"This is one of the recent Guatemalese introductions of Mr. B. S. Williams, who kindly sent me two flowers. Sepals and petals whitish green, covered with innumerable purple spots. The lip is yellow, with radiating dark purple lines on the side laciniæ and five similar blotches on the middle laciniæ. It has all the features, colour excepted, of the Mexican Lycaste Deppei, even the most remarkable one of a strong keel running from the lobed flat callus down to the base of the lip." The idea of its being a natural hybrid does not appear to have suggested itself, but the plant has since been figured (*Orch. Alb.*, vi., t. 262), and I am convinced that it originated by the intercrossing of L. Deppei and L. Skinneri, for it is unmistakably intermediate between them, and the dense rosy spotting we now know to be characteristic of this hybrid.

Curiously enough a hybrid had already been raised artificially between these two species, though Reichenbach made no allusion to the fact, and, indeed, may have overlooked the record, which is as follows :—

HYBRID LYCASTE.—We have had flowers of a hybrid Lycaste placed in our hands by Mr. W. Marshall, whose name is familiar amongst Orchid growers. The plant was raised some nine or ten years since, between L. Skinneri and L. Deppei, and is, we believe, the second which has as yet been flowered. The three large sepals, of which the upper is erect and the lateral ones spreading, are of a creamy hue with a faint tinge of green, and are thickly dotted with purple on the lower half. The two erect petals are large and of nearly the same colour as the sepals. The lip is yellow, densely spotted with crimson on the lower half, pure yellow on the recurved front lobe, and with a tongue-shaped orange fold lying on the disc, and projecting as far as the base of the front lobe, while the side lobes turn up to meet the column, the latter being about half as long as the petals, yellow, intensely sanguineous at the base. The breadth of the flower across the expanded lateral sepals is five inches. It is a very interesting production, but is not regarded by its raiser as sufficiently attractive to be of any great value as a cultivated Orchid."—*Gard. Chron.*, 1878, x., p. 535.

This plant was subsequently called Lycaste × hybrida (*Veitch Man. Orch.*, ix., p. 97), and to it may be referred both L. Deppei punctatissima and the plant which has just flowered with M. Fl. Claes, at Brussels. The latter has a flower rather over 4 inches across, with sepals over an inch broad, suffused with light rosy purple, and spotted near the base on a white ground. The petals have the spots more in lines and brighter in colour, while the lip is nearly white, blotched with purple-crimson on the front lobe, striped with crimson on the side lobes, thus showing characters

derived from each parent in addition to the generally intermediate character. This plant may now be added to the list of natural hybrids whose parentage has been proved.

L. SMEEANA, is a very puzzling plant, which was described in 1883 (Rchb. f. in *Gard. Chron.*, 1883, xx., p. 198), as follows:—"This is undoubtedly a very interesting plant. It has the bract of Lycaste Deppei and nearly the shape of its flower, though it is wider, but the colour is white, excepting the lip, which has a light purple border of the triangular acute undulate anterior lacinia, rows of small purple stripes, and spots over the whole surface. The callus is nearly as in L. Deppei, having a very short free portion, not a long one as in L. Skinneri, and an obscure keel in its middle. The petals, too, have on the inside some purple spots. The column is white, with some purple spots at the base. Those who know L. Deppei and L. Skinneri will suggest its being intermediate between them. The bulb and growth are described as being in the way of L. Deppei, while the column, the shape, and the petals, the sepals, and lip remind one of L. Skinneri and L. Deppei. I remember well L. Deppei punctatissima sent by Mr. Williams in October, 1881. It has the genuine lip and sepals and petals of Deppei. I had this plant from Mr. A. H. Smee, The Grange, Hackbridge, the son of the author of 'My Garden,' and feel pleased to name the plant Lycaste Smeeana, hoping its possessor may observe it further, since he was so much struck by it at its *début*."

I feel doubtful about the origin of this plant, for it seems quite distinct from the preceding. Besides the original, which I saw in Mr. Smee's collection in August, 1889, it flowered with H. Little, Esq., of Twickenham, in July, 1889, and December, 1891, with M. A. Van Imschoot, in February, 1890, with T. Statter, Esq., in the following July, and with the Right Hon. J. Chamberlain in September, 1893, as shown by specimens preserved at Kew. M. Van Imschoot stated that his plant appeared with plants of Lycaste Skinneri and L. lasioglossa, which is interesting as affording a clue to its habitat. I have a suspicion that it may not be a natural hybrid at all. The above records hardly suggest such an origin; the white colour of the sepals and petals is difficult to explain on the above assumption. I fail to find the characteristic Deppei markings on the lip; and, lastly, I do not see what combination of known Guatemalan species would produce such a plant. **Further evidence is required.**

LYCASTE × LUCIANIANA.—In 1891 a distinct Lycaste flowered in the collection of M. A. Van Imschoot, of Ghent, among some imported plants of L. Skinneri. It was then divided into two, and failed to flower the following year, but on December 10th, 1893, a plant was exhibited by M. Van Imschoot at a meeting of the Orchidéene, at Brussells, under the name of L. Lucianiana, and received a First-class Diploma of Honour

(*Orch. Rev.*, ii., p. 28). It then presumably changed hands, for two days later it was exhibited by Messrs. Linden, at a meeting of the R. H. S., under the name of L. Luciani, and received a Botanical Certificate (*l.c.*, p. 30). It was subsequently described under the latter name (Van Imsch. & Cogn. in *Journ. des Orch.*, iv., p. 361), as a beautiful "species," near L. lasioglossa and L. Skinneri, and afterwards figured (*Lindenia*, t. 412), when, though still called a "species," it is mentioned that M. Van Imschoot thinks it may be a natural hybrid between L. lasioglossa and L. Skinneri. This is clearly its origin, for the hairy lip and intermediate character are unmistakable. M. Van Imschoot's second plant also flowered in the following month. The plant from M. Paul Wolter, mentioned at page 63, is apparently identical.

R. A. ROLFE.

MASDEVALLIA SORORCULA.

AT the last meeting of the R. H. S. a plant of Masdevallia sororcula was exhibited by Sir Trevor Lawrence, which proves to be the type plant from which the species was described by Reichenbach some fourteen years ago (*Gard. Chron.*, 1887, ii., p. 712). The author described it as "the younger sister of M. elephanticeps itself," and went on to point out that there were but two strong differences besides the colour and smaller size. Its history was thus given :—"When visiting Sir Trevor Lawrence's glorious collection, in the possessor's absence, in September, 1886, Messrs. J. Day, W. Lee, and I saw this curiosity in flower, and I obtained the single flower and a leaf. This year, when at the same Orchidic Eldorado with Mr. J. Day, guided by Sir Trevor himself, there was no vestige of a flower. The species of this affinity are very shy flowers. Thus I publish the plant after having so much desired to see a second flower. It is so very awkward to describe a species from one flower only—often it is quite impossible; in this case there are at least most remarkable characters the constancy of which we may hope to experience."

I was under the impression that the plant had been lost sight of, having never seen an authentic flower, and having failed to identify anything with the description, but the latter point is now explained, for the species proves identical with M. Mooreana, described by the same author about three years earlier (*Gard. Chron.*, 1884, xxi., p. 408). The original flower may not have been quite normally developed when described, but, on comparing one of those now produced, I find that all the essential characters agree, and the circumstance of its being from the original source confirms any doubt that there might be in the matter. It is interesting to have the point cleared up.

R. A. ROLFE.

FERTILITY OF HYBRIDS.

In a recent discussion the question of the fertility of mules, or hybrids, was raised, the impression among some being that all true mules were sterile; should they prove fertile, it was argued to mean that hybridity was not present, even though so-called bigeners. The discussion arose owing to the statement that our experience had proved that parents of hybrid origin were more fertile than mere varieties, or even species, in the production of their kind. Take Epidendrum × O'Brienanum as an example. We have succeeded in raising from and through it many crosses; Cattleya amethystoglosssa when fertilised with it gives us a fine Epicattleya; with Sophronitis, it gives us hundreds of seedling Epiphronitis now in bud; when crossed with Cattleya × Claesiana it produced myriads of plants; and so on, seemingly because of its hybrid origin; whereas, Epidendrum radicans and E. cinnabarinum have never yet given us a pod, though tried times without number.

We could name other cases, but this will suffice. The question raised is as to whether E. × O'Brienanum is a true mule, and we would be glad to get the opinion of the Editor and others in this connection. There seems to be quite a little confusion among cultivators as to what is a hybrid and what is a cross. Taking any of the Cattleya labiata varieties, such as C. Mendelii and C. Mossiæ, and raising seedlings between them would not give hybrids, we take it, but mere crosses; but, were that section mated with any of the two-leaved species, such as C. Bowringiana or C. guttata, would the progeny be regarded as hybrids?

We have proved, or come so near proving, that many true species are impotent, in that we cannot get results by their use, but have, so far, not noticed that any Orchid of garden origin fails us in this respect. We have in flower now over a dozen Epidendrums, with many more in bud, as the result of crossing E. × O'Brienianum with E. radicans and E. cinnabarinum; all except one have the lax flower spike traceable to E. evectum; all are decorative enough to be worth growing, and are of better habit than the sprawling E. × O'Brienanum, but only one is an improvement on any of the kinds connected with its origin, and, strange to say, all the segments of the flowers are spotted with dark red over a rich scarlet ground, with a compact head of flowers like E. radicans. We find that these reed-like plants can be made to bear seed and flower within two years from crossing, and it would be a very interesting pastime could we give space to it.

S. Lancaster, Mass., U.S.A. E. O. Orpet.

[We should say that all seedlings raised by the intercrossing of distinct species are true hybrids. Many such plants are now known to be fertile, and this supposed test fails. There is room for difference of opinion in

some cases as to what constitutes a species, but we do not consider Cattleya Mossiæ and C. Mendelii as simply varieties of C. labiata. At the very least they are well-marked geographical sub-species, having their own characters, and their own varieties. This question was exhaustively discussed at pages 266-270 of our third volume. There can be no question as to the distinctness of Epidendrum evectum from E. radicans, and consequently none that E. × O'Brienianum is a true hybrid. The question of its fertility is interesting, and on this point evidence is fortunately accumulating. It is certainly remarkable to find that seedlings can be got to flower within two years from crossing, and we should like to have complete details on this point.—ED.]

DENDROBIUM × VENUS.

I WRITE to ask if any correspondents of the ORCHID REVIEW have experienced the same difficulty in flowing this lovely hybrid as I have had for the last two seasons. This hybrid is a cross between Denbrobium Falconeri and D. nobile, and is most lovely when it blooms freely. My plant is a fairly large one and very healthy, being about three feet in height and having many strong growths. It grows most vigorously, and produces flower buds very freely, and these buds swell up quite regularly until they are about three-quarters of an inch in length and begin to show their proper colour. Now comes a most mysterious change, as some of the buds expand most beautifully, while others suddenly stop and die off quite shrivelled.

This Dendrobe is grown, along with others, in a special house, and its summer temperature ranges from 70 degrees by day (more by sun heat), with a drop of 5 degrees, or more, at night, until the growth is made, and then it is removed to the resting house, where it is kept comparatively dry, until its flower buds are well in evidence. I have had the same trouble for two seasons, and am much disappointed, for at least two-thirds of the blooms are lost in the way I have described. Whether the cause lies in the difference in habit of the two parents or of some cultural error I am at a loss to understand, and am most anxious to find out.

O. O. WRIGLEY.

Bridge Hall, Bury.

[We should be glad to have the experience of others on this point. Meantime we may remark that one parent, namely D. Falconeri, requires somewhat different treatment from many others, as was pointed out at page 86 and in previous volumes, and it may be that the pecularity extends in some measure to its offspring. The matter is worth testing by experiment. —EDITOR.]

PAPHIOPEDILUM × LATHAMIANUM.

We had some interesting remarks on the "Future of the Cypripede" at pages 60 and 76, and the annexed photograph of Paphiopedilum × Lathamianum, sent by O. O. Wrigley, Esq., Bridge Hall, Bury, forms a very practical contribution to the question. It is a charming specimen, and it is not surprising that plants which can be grown thus, with ordinary care, should become increasingly popular. It is a picture of health and

FIG. 18. PAPHIOPEDILUM × LATHAMIANUM.

beauty, and its graceful appearance will appeal to all lovers of this beautiful group. Mr. Wrigley writes that he had intended to place this plant, with several others, before the Committee of the Manchester Orchid Society, but owing to the frost he had to cut the flowers and send them instead. He also adds:—"My numerous plants of this lovely hybrid never were as fine as they have been this season." Paphiopedilum × Lathamianum was originally raised in the Birmingham Botanic Garden by our

esteemed friend and correspondent Mr. W. B. Latham, from P. Spicerianum ♀ and P. villosum ♂, and flowered for the first time in 1888. It has since been raised in various other collections, and some of the forms differ a good deal in the colour details and to some extent also in size, but all of them show the most unmistakable evidence of their descent. This fine hybrid is universally admitted to be one of the best of winter flowering kinds.

ODONTOGLOSSUM LEAVES DECAYING AT THE TIPS.

In your February issue (page 39) I have read with much interest what you term "An important question" brought forward by Mr. De Barri Crawshay, respecting the leaves of Odontoglossums decaying at the tips. I have seen a good many collections of Odontoglossums, both in this country and abroad, and have never seen them so bad as stated by Mr. Crawshay. We have a good collection here; I do not say we have no plants in ill-health, but the bulk of them are in vigorous health and not the least sign of yellow tips. You may find leaves going off from old age in their natural way, but on the unfinished pseudobulbs and the one preceeding it you will find every leaf sound, and if the method used here is of any use to Mr. De Barri Crawshay, he is welcome to it.

Our plants are potted in a mixture of polypodium fibre and sphagnum moss, about equal parts, or just a trifle more moss, chopped rather fine; the pots are crocked a little more than half full, according to the size of the plants; potted every year, shaking all the old soil off. In spring and summer we give plenty of water, and syringe four or five times daily, keeping the stages and floors well damped, and we shade well in bright weather. During the autumn we gradually reduce the water and use of the syringe, till about the middle of November, and from that time till the middle of January we give just enough water to keep the bulbs from shrivelling; if they do shrivel a little it will do no harm. In winter the hot water pipes are kept just warm enough to maintain a temperature of 48° to 50°, never allowing it to go below the former, except in very severe weather, and then not below 45°. The pipes are always kept warm during the winter months, and if the temperature is likely to exceed 55° just a crack of air at bottom is given till it drops to 50°.

Too low a temperature is I believe the cause of the tips of the leaves going yellow. The treatment here advocated gives us thick, dark green leaves, and quantities of flower spikes, many of them carrying from fifteen to twenty blooms. In conclusion I may say that our house faces due south.

W. C. P.

DENDROBIUMS FROM CHELTENHAM.

A SPLENDID series of Dendrobiums has been sent from the establishment of Mr. J. Cypher, of Cheltenham, which shows how thoroughly he has mastered the cultivation of these beautiful plants. Of seedlings raised by Mr. Cypher there are various good forms of D. × Cybele, D. × Ainsworthii, and of the secondary hybrid raised between the latter and D. nobile, of which the original form is known as D. × Rubens. The latter shows a remarkable amount of variation, and affords an opportunity for the selection of some sterling forms, some being very richly coloured, while one has the sepals and petals nearly white, and is very beautiful. D. nobile nobilius is a splendid example, $4\frac{1}{4}$ inches in diameter across the petals, and the latter $1\frac{1}{4}$ inches broad. Other charming forms are D. × Wiganiæ, D. × rhodostoma, and D. × Aspasia. There is also a fine raceme of D barbatulum, and a striking form of D. atroviolaceum having widely spreading petals, which are more narrowed at the base than the typical form, and thus forming a rather marked contrast with it. Mr. Cypher's houses are a picture of loveliness at this season.

It may interest some of our readers to know the methods by which such successful results have been obtained, and the following notes of a paper read by Mr. Cypher before the Birmingham and Midland Counties Gardeners Association in 1895 will probably prove useful.

Mr. Cypher remarked:—"In the successful cultivation of Dendrobiums there are several important points which must be strictly adhered to, especially the use of small pots, pans, or baskets in which to grow them, as many growers fail through having too much material about the roots. Plenty of heat and moisture should be given during the growing season, and the plants must be kept perfectly free from insect pests, especially thrip and red spider, both of which are very destructive and soon disfigure and weaken the young growths. During hot weather, the plants should be thoroughly syringed twice daily, taking care to get to the under side of the leaves, where the insects usually attack them.

"The best compost I have found to consist of good fibrous peat and fresh sphagnum, in equal parts, with a liberal addition of broken crocks and charcoal, and the soil should in most cases be renewed annually, as the roots will not enter sour material. Good drainage must always be given, and new clean pots or pans, using them as small as possible, according to the size of the plants. I generally use pans in preference to baskets, as they are easily broken when the plants require shifting, but it is almost impossible to get plants out of baskets without injuring many of the tender roots, while if the old basket is placed inside a new one, the old compost becomes exhausted.

"Galvanized wire should never be used for suspending the choice varieties, as the growths are frequently injured by coming in contact with it. I have several times noticed bulbs of Dendrobiums almost ruined by contact with the wires during hot sunshine. If the roof wires on which the plants are suspended be galvanized, they should receive two coats of white paint.

"A constant supply of rain-water is another very important matter, as the plants will not thrive if frequently watered with hard water. In all Orchid houses provision should be made for storing all the rain-water possible, and if in large open tanks so much the better. The water used for dipping should be of about the same temperature as the house in which the plants are grown, and this can be secured by having a small tank over the hot-water pipes, which should be kept filled. I do not care to have hot pipes constantly running through the large tanks. In dipping the plants great care should be exercised, especially during winter and early spring, when the young growths are starting, or they may be broken or damaged. They should never be plunged beyond the base of the plant, and the tender young breaks should never be allowed to touch the water.

"The Dendrobium house should also be provided with trough pipes, and these should be kept filled during the growing season, and should occasionally have a little manure-water and soot placed in them, taking care, however, that they never become dry, or the foliage may be injured. The floor of the house should also be sprinkled with manure-water twice a week during the summer months, the best time being when the house is closed for the night.

"Another important matter is to secure plenty of light, as Dendrobiums enjoy all the light possible, and a little sunshine, morning and evening, though they should be shaded from hot sun during the day. Many people say that Dendrobiums grow so well at Cheltenham because we have so much sunshine, but not many weeks ago, I saw a few Dendrobes at Stand Hall, near Manchester, and I can truly say I never saw better grown plants, and Manchester is not blessed with any great amount of sunshine. There are also some splendidly grown plants in the collection of Mr. Lee at Manchester, and at Highbury and the Uplands, in Birmingham. No doubt they must receive less shade near any large town, and cultivators must use their own discretion, always striving to give all the light possible, and a little sunshine. Never use a permanent shade, or allow the blinds to remain down during dull periods.

"After re-potting, the plants require more shade for a week or two; also great care in watering until the roots take hold of the new soil, after which a liberal supply should be given until the growths are completed, when it should be gradually reduced, so as to mature the growths, and in autumn

sufficient moisture only should be given to prevent shrivelling. I strongly advise giving plants water immediately they show signs of shrivelling, as I have no doubt they are sometimes weakened and almost killed by too much drought in winter.

"I also advise wintering the choice hybrids in a fairly warm house, never falling below 55°. Such varieties as D. Bensonæ, aureum, lituiflorum, and all the Australian and New Guinea Dendrobes, should never be placed in a cool house, but must be kept warm and dry during the resting period. The Australian ones when retaining their foliage always make better and stronger growths than if allowed to lose their leaves.

"D. Dearii should never be kept dry, nor placed in a cool house, as it appears to grow and flower all the year round, and should therefore be kept moist. D. formosum requires plenty of heat and moisture during the growing season, and well repays the grower by producing its splendid blooms during autumn, when white Orchids are scarce. D. infundibulum and Jamesianum should be grown cool and moist during summer, and in autumn placed at the cool end of the Cattleya house, and kept moist, in order to mature their growths, when they produce flower buds in the spring.

"D. Bensonæ is considered a very difficult plant to cultivate for many years. But I have grown it for eight years and at the end of that period had finer bulbs than those imported. I believe many, or nearly all, are lost by having too much water during winter or early spring, and even when the new growths are several inches long they should receive very little water. Red spider also has a particular fancy for it, and soon injures the young growths, if not kept in check, which should be done by sponging the under side of the leaves with weak fir-tree oil and water.

"D. Falconeri is also subject to the attacks of red spider, and should be carefully watched. I find it grows best when kept rather cool and shaded during summer, and well saturated with water. More light should be given in autumn to mature the growths, and during the winter it should be kept dry, to induce it to bloom freely. It is no doubt one of the handsomest Dendrobes when in bloom, and well repays any care bestowed on its cultivation.

"No doubt the nobile section is the easiest to cultivate, and all are beautiful when in bloom, especially D. nobile nobilius. D. n. Cooksonianum, D. n. pendulum, D. n. Hardyanum, D. n. Cypheri, &c.

"It is not necessary to have a house specially devoted to Dendrobes, as anyone having a warm plant-stove may cultivate many varieties to perfection. I have noticed better specimens in ordinary plant-stoves than in a mixed house of warm Orchids, or in houses specially devoted to Dendrobiums; and they produce a beautiful effect, hanging in bloom from the roof of any plant-stove."

RAISING ORCHIDS FROM SEED.

THE interesting account given on page 18 of different methods of raising seedlings has suggested a few comments thereon that may be of interest to readers of the ORCHID REVIEW.

The charge was once made, and much discussed, that gardeners were empiricists, or rather, that their methods were empirical, but it would seem that the operators in raising Orchids from seed are each obliged to experiment along certain lines, finding out the methods best suited to their conditions, and follow it, and even when one has attained to a maximum of success in a few instances, the same treatment applied to other trials does not always seem to succeed. In regard to suitable substances to sow the seeds upon there is much difference of opinion. We have tried all that suggested themselves, from a porous brick to a sponge, all of which were failures, because of the rapidity with which they were coated with low forms of vegetable life, derived from the water, and which surely swamped the seeds before they were large enough to make a struggle for life, or even gain a foothold.

Of all materials tried, there is none so good as the brown, fibrous roots of the Osmunda, that is used entirely in the United States for the culture of epiphytal Orchids. A material, exactly similar to it in texture we used to get in County Cavan, when living in Ireland, is the mats of fibrous roots of Polypodium vulgare, as it was torn from the oak trees in that climate, where it rained, seemingly, every day in the year. We do not tear the material apart before using, but chop it in cubes or triangles, to fit round the plant when potting, and it resembles a cross section of a tree fern somewhat, though not nearly as hard or firm, as it is easily compressed, and forms an ideal seed bed. Care is taken to soak the plant well before sowing the seeds, the testa of which seems to be endowed with the property of adhering to the first moist surface it comes in contact with, and after this adherence by first intent, they are not easily washed off. We are careful in watering for the first time or two, and generally use a fine spray, which secures the seeds among the root fibres, so that afterwards water is given with a hose direct from the water main or from the spout of a water pot.

We experimented for some time to find a simple and effective way to sow Orchid seeds, and have settled down some time ago to a sheet of writing paper folded in half, to form a chute to blow the seeds from on to the prepared and moistened surface. The last seeds left in the paper are always the best, owing to their greater specific gravity. We have also given up putting all our eggs in one receptacle. From sowing on large plants the whole of one cross, we have got down to sowing on several pots, themselves containing seedlings in about four inch size. Sometimes all

fail to produce results, but very rarely do we miss getting up a few on one or more of the pots sown, as the conditions in the seedling house are much more favourable than those which obtain in the large, airy structure containing the specimen plants.

Of many points that are debatable that make towards failure or otherwise, one we are sure about, namely, that a continuous supply of moisture is absolutely essential. If once the seed starts to germinate and then becomes quite dried, failure is as certain as that night follows day, therefore, in this climate of hot days and long draught, we say, never suspend any pot whereon seeds are sown above the level of the eye. We have proved more than this—that light is not at all essential to germination; given moisture and air we have had them grow in every possible situation on the stages, on the outside of the porous pots, and other unlikely places where light was obtained in very subdued quantities.

How frequently do we see it recommended to immerse the receptacles containing seeds when it is necessary to apply moisture, but if there was one thing that would tempt me to write with a big DON'T, it would be this immersion business. In our earlier experiments nothing appealed to me so much as the fact that we got up plants from crosses among Cattleyas and Lælias that were considered difficult by others, and how elated were we to count in anticipation the number of new plants we were going to—well—say, introduce; but alas, that dipping process had dissipated certain seeds through the whole of the seed beds. We have one certain cross that has flowered during the past year or more under at least half a dozen different labels, and the moral is, no more dipping—for we fear the end of such like results is not yet.

Instead of relying on dipping, as "Hybridist" suggests on p. 20, let the beginner try sowing on a number of pots instead of one, and not turn faint-hearted if the first lots fail. Nothing brings success like a multitude of trials. How often have we congratulated ourselves that we did not keep a record of our failures: what lugubrious reading it would make for the amateur or beginner. Let me advise keeping a record of those that come up: it will be pleasant reading at all times.

Our results are those of a *bona fide* beginner, and are intended as comments merely on those already printed in your columns from time to time. The work was begun after a visit, in 1895, to many of the places in Britain, where it was possible to see what had been done in an adverse climate, and many times have we recalled the courtsey extended during that trip by the clever cultivators met there.

The formula recommended by Mr. Cookson (see *O. R.*, vii., p. 144), has worked wonders among our seedlings, and we use it at every watering. The established plants of the collection do not seem to respond as readily

to its use, for imported plants *do* degenerate, but our seedlings will take up all the space as it is vacated, and the only fear we have is that it will not be vacated as quickly as needed for the rapidly growing young seedling plants.

It is easy to understand why hybrids are said to be of greater longevity than plants from the woods; the former are to the manner born, and are specially fitted to survive under our conditions. If it were not so we should not even see them, they die when so small.

These notes are sent at the request of some of my countrymen who have seen and heard of some notes of mine in *American Gardening*. If printed, it will lead me to believe that more will be acceptable. [Such facts are always welcome.—ED.]. Details are sadly needed to help along the good work of stimulating others to begin the fascinating work of raising seedling Orchids.

E. O. ORPET.

So. Lancaster, Mass., U.S.A.

ORCHID NOMENCLATURE.

I WAS very glad to read in your last number (p. 82) that the question of Orchid nomenclature had again been brought forward by that enthusiast, Mr. De B. Crawshay. If I may venture to express an opinion I should be sorry to see the suggested Orchid Society severed from the R. H. S., but I think a good deal might be done by forming an Orchid Society under the wing of the R. H. S. at a small extra subcription; and if the R. H. S. would give such a Society facilities for holding a few Orchid exhibitions during the year a certain income sufficient for the Orchid Society's needs should be assured. The duty of such an Orchid Society when formed should be to at once combine all similar Societies in England, and commence the formation of a register for all Orchids, and should only allow one name to be given to either a species or a hybrid of a certain cross, for what can be more ridiculous than some ten or twelve names being given to hybrids all raised from the same parents and coming from the same seed-pod. Definite rules should be laid down for the judging of Orchids; all new species should be entitled to a certificate as such, and hybrids should be arranged into three or even four classes, and a First-class Certificate or whatever the highest award may be called should be a very rare distinction. At present the Orchid Committee of the R. H. S. can only divide species and hybrids into two classes, which does not give sufficient scope for distinction. I am too young and inexperienced an Orchid enthusiast myself, but I wish that those of light and leading in the Orchid world would take the matter in hand at once. If they will give us a lead, they will be well backed up by a large number of lovers of this most interesting culture.

FRANK A. REHDER.

The Avenue, Gipsy Hill.

PAPHIOPEDILUM APPLETONIANUM.

In 1895 a plant which had flowered with M. Paul Wolter, at Magdeburg, was described under the name of Cypripedium Wolterianum (Kranzl, in *Gard. Chron.*, 1895, xvii., p. 166), the author remarking: "It is perhaps a natural hybrid between C. Lowii and another parent unknown to us. The staminode, however, shows such a peculiar feature, and is so dissimilar to this organ in other Cypripediums, that we must consider the plant for the moment as a true species. The habitat is to be kept secret for the present, but I can assert that it is not the native country of C. Lowii. For myself, I was struck with the information given to me by the importer. The

Fig. 19.—Paphiopedilum × siamense. Fig. 21.—P. Appletonianum.
Fig. 20.—P. callosum.

flowers have all the grace of those of C. Lowii, and are of about the same size. I may add that the specimen which flowered at Magdeburg, in Mr. P. Wolter's collection, was a very poor one, yet its flowers were in size and beauty equal to those of a normal C. Lowii. It is to be hoped that the flower will increase in beauty when the plant has acquired more strength." What it could be was naturally a puzzle, and when subsequently a plant was figured (*Xen. Orch.*, iii., p. 142, t. 282), showing all the characters of the one already known as C. Appletonianum, the value of the above remarks was apparent. And the history of the plant can now be completed.

M. Th. Franke has sent to Kew an authentic flower, stating that the plant was found in a importation of P. callosum, and that a second plant has now appeared in the same way. This of course fixes its habitat as Siam, and serves to confirm its identity. The history of the species has already been given (*O. R.*, iv., p. 18), but its appearance can now be traced back to 1889, for in January of that year a plant flowered at Kew which had passed as C. callosum until it flowered. Other plants have been obtained in the same unexpected way, quite recently one in the collection of Capt. Law-Schofield, Rawtenstall, Manchester, but Messrs. Hugh Low & Co. have also introduced it in quantity. Its affinity is not with P. Lowii, which has far larger flowers and unmarbled leaves, but with the Bornean P. Bullenianum, which it resembles so closely in the flower as to have been taken for an aberrant variety of it. It is interesting to be able to clear up its history.

The remaining figures represent the well-known P. callosum (fig. 20), with which the preceding was imported, and P. × siamense (fig. 19), the interesting natural hybrid between the two others, which occasionally turns up in the same importations. Its history may be found in an earlier volume (vol. iv., p. 17).

R. A. Rolfe.

THE HYBRIDIST.

Epicattleya × Orpeti.—This is the result of impregnating Cattleya amethystoglossa with the pollen of Epidendrum × O'Brienianum, and Mr. E. O. Orpet writes from S. Lancaster, Mass., U.S.A., that it "is now in bloom with us, a little under two years from fertilizing the flower. The plant is now about 16 inches high, with a scape about ten inches longer, the habit being that of an Epidendrum with the leaves a trifle longer, thicker, and broader, and with no trace of aërial roots. The flower, in size, equals that of E. radicans, and is exactly the colour of Masdevallia Lindenii, the red being eliminated. The lip is fringed and strongly three-lobed, and shows very little modification from the pollen parent. The pollen masses are two in number, and seemingly abortive. The scape has about six flowers and buds sparsely set at the top, and there are three growths, all of which are showing for bloom. Epidendrums of this reed-like section are lovers of sun. All that we have in summer here they will stand, but directly the Cattleyas are mixed in, the house requires shade, or the latter will show signs of distress." This interesting plant may bear the name of its raiser, and will probably be heard of again when fully developed.

SOCIETIES.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

A MEETING of this Society was held at the Coal Exchange, Manchester, on February 7th, when many beautiful Orchids were exhibited, the awards being as follows:—

Mrs. Briggs-Bury, Bank House, Accrington (gr. Mr. Wilkinson), exhibited a pretty little group, to which a Vote of Thanks was awarded. First-class Certificates were given to Odontoglossum crispum Fairy Queen, Cypripedium × Beeckmanni, and C. × Hyeanum, and Awards of Merit to C. × Wilkinsoni and C. × Euryades Hera.

T. Baxter, Esq., Morecambe, Lancashire (gr. Mr. Roberts), staged a fine group of Odontoglossums, for which a Silver-gilt Medal was awarded. Awards of Merit were given to Odontoglossum crispum Queen Alexandra, O. × Andersonianum Golden Queen, and O. × microspilum.

A. Warburton, Esq., Haslingden (gr. Mr. Lofthouse), showed Odontoglossum crispum Kegeljani, which received a First-class Certificate.

R. Ashworth, Esq., Newchurch, Manchester (gr. Mr. Pidsley), exhibited Odontoglossum × Adrianæ, which received an Award of Merit.

S. Gratrix, Esq., Manchester (gr. Mr. McLeod), exhibited Cypripedium callosum Gratrixiæ, which received an Award of Merit.

W. Duckworth, Esq., Shawe Hall, Flixton, (gr. Mr. Tindall), received a Cultural Certificate for Cypripedium × Lathamianum inversum.

A. Z. Lees, Esq., Stretford (gr. Mr. Thompson), staged a neat group, and was awarded a Vote of Thanks.

Mr. J. Cypher, Cheltenham, exhibited a good group, for which a Vote of Thanks was given. Awards of Merit were made to Dendrobium × dulce Oakwood var., D. × splendidissimum giganteum, and Cypripedium × Harrisianum superbum.

Mr. A. J. Keeling, Cottingley, Bingley, staged a small group, and was awarded a Vote of Thanks.

AT the meeting on February 21st, there was again a very good display of choice Orchids.

J. Leemann, Esq., Heaton Mersey (gr. Mr. Edge), showed a fine group, for which he was awarded a Silver-gilt Medal. First-class Certificates were given to Cattleya Trianæ Furore, Lælia × nigrescens, and Dendrobium × Apollo alba.

Mrs. Briggs-Bury, Bank House, Accrington (gr. Mr. Wilkinson), was awarded First-class Certificates for Lælio-cattleya × Imperatrice de Russie and Cymbidium Hookerianum Bank House var.

T. Baxter, Esq., Morecambe (gr. Mr. Roberts), received Awards of

Merit for Odontoglossum × Andersonianum Earl Roberts and O. × A. Mabel.

A. Warburton, Esq., Haslingden (gr. Mr. Lofthouse), exhibited Cattleya Trianæ Mafeking, which received an Award of Merit.

O. O. Wrigley, Esq., Bury (gr. Mr. Rogers), staged a nice collection of cut Cypripedes, and was awarded a Bronze Medal.

Messrs. J. Cypher, Cheltenham, staged a fine group, which was awarded a Silver Medal.

Messrs. Charlesworth & Co., Heaton, Bradford, exhibited Odontoglossum crispum Dorothy, a pretty yellow form, which received an Award of Merit.

Mr. A. J. Keeling, Cottingley, Bingley, received an Award of Merit for Cypripedium × bingleyense.

On March 7th the exhibits were more numerous, and the Dendrobes were particularly good.

J. Leemann, Esq., Heaton Mersey (gr. Mr. Edge), staged an excellent group, which was awarded a Silver-gilt Medal. Lælio-cattleya × Admiral Dewey received a First-class Certificate.

O. O. Wrigley, Esq., Bridge Hall, Bury (gr. Mr. Rogers), received a Silver Medal for a fine group, in which the beautiful Dendrobium Wardianum ochroleucum was conspicuous.

R. Ashworth, Esq., Newchurch (gr. Mr. Pidsley), received a First-class Certificate for a beautiful albino called Cattleya Trianæ alba Snowflake.

S. Gratrix, Esq., Manchester (gr. Mr. McLeod), receved a First-class Certificate for Dendrobium × Cybele var. Mr. John Cypher.

T. Statter, Esq., Stand Hall, Whitefield (gr. Mr. Johnson), exhibited Dendrobium × Minos (Findlayanum × Cassiope) and Lælio-cattleya × Cappei, both obtaining Awards of Merit.

W. Duckworth, Esq., Shawe Hall, Flixton (gr. Mr. Tindall), received an Award of Merit for Dendrobium nobile Duckworthii. He also sent Cymbidium eburneo-Lowianum.

A. Z. Lees, Esq., Stretford (gr. Mr. Thompson), exhibited Cattleya Trianæ, Lees variety, which received an Award of Merit.

G. H. Peace, Esq., received an Award of Merit for Odontoglossum Rossii giganteum.

E. O. Schneider, Esq., Whalley Range (gr. Mr. Hunt), sent a fine example of Dendrobium × Schneiderianum.

Mr. J. Cypher, Cheltenham, staged a fine group, and was awarded Silver-gilt Medal. Dendrobium × splendidissimum giganteum received a First-class Certificate, and D. × s. albens and Saccolabium bellinum, Awards of Merit.

Mr. J. Robson, Altrincham, received a First-class Certificate for Cypripedium × aureum Cyros, and Awards of Merit for C. × a. Carpartianum and Dendrobium × euosmum var. (D. nobile Amesiæ × D. endocharis).

Mr. A. A. Peeters, Saint Gilles, Brussels, received an Award of Merit for Cypripedium × aureum Etiocle.

Mr. W. Holmes, Timperley, Cheshire, exhibited Dendrobium × Cybele nobilius.

THE meeting held on March 21st was the most successful of the season up to date, the display being superb.

J. Leemann, Esq., Heaton Mersey, (gr. Mr. Edge), staged a fine showy group, for which he was awarded a Silver-gilt Medal. Odontoglossum crispum Imperator and Lælio-cattleya × Ernesti var. General Buller received First-class Certificates, and Awards of Merit were given to Odontoglossum × Ruckerianum, O. natural hybrid (unnamed), Dendrobium × Ainsworthii Woodhatch var., and an unnamed Cypripedium (Godefroyæ × insigne ?).

Mrs. Briggs-Bury, Bank House, Accrington (gr. Mr. Wilkinson), staged a nice group, which gained a Vote of Thanks. Odontoglossum × Rolfeæ Hercules, a fine form with beautiful colouring, received a First-class Certificate, and Awards of Merit were given to Odontoglossum crispum Princess, O. triumphans Bank House var., Trichopilia suavis grandiflora, Cypripedium × Pomona, and C. × aureum Œdipe.

W. Duckworth, Esq., Shawe Hall, Flixton (gr. Mr. Tindall), exhibited a fine group, and was awarded a Silver-gilt Medal. Cypripedium × Lilian Greenwood received a First-class Certificate, and Cattleya Trianæ Uplands var., an Award of Merit.

O. O. Wrigley, Esq., Bridge Hall, Bury, (gr. Mr. Rogers), showed a fine group, and was awarded a Silver-gilt Medal. Dendrobium × Rubens grandiflorum received a First-class Certificate, and Dendrobium × Rolfeæ an Award of Merit.

T. Statter, Esq., Stand Hall, Whitefield, (gr. Mr. Johnson), received a First-class Certificate for Cypripedium × Maudiæ, and an Award of Merit for Dendrobium × Curtisii.

S. Gratrix, Esq., Manchester, (gr. Mr. McLeod), received a First-class Certificate for Lycaste × Samuel Gratrix.

E. H. Seddon, Esq., Brooklands, (gr. Mr. Milne), exhibited the fine albino Catteya Schroderæ Queen Alexandra (First-class Certificate).

A. Warburton, Esq., Haslingden, (gr. Mr. Lofthouse), received a First-class Certificate for Dendrobium × Souvenir de Queen Victoria (D. nobile Amesiæ × C. Ashworthianum).

Dr. Hodgkinson, The Grange, Wilmslow (gr. Mr. Woore), received an Award of Merit for Dendrobium × Sibyl magnificum.

Messrs. Charlesworth & Co., Heaton, Bradford, staged a very fine group, for which a Silver-gilt Medal was given. First-class Certificates were awarded to Odontoglossum × Adrianæ Duchess of Cornwall, O. crispum Sunray, and Cymbidium × eburneo-Lowianum concolor, a hybrid from C. Lowianum concolor, and resembling it in having a nearly self-coloured flower. Lælio-cattleya × Mrs. Gratrix received an Award of Merit.

Mr. A. J. Keeling, Cottingley, Bingley, showed a nice group, for which a Vote of Thanks was given. Cypripedium × Juno received a First-class Certificate and Awards of Merit were given to Cypripedium × Robert Etty and Odontoglossum crispum virginale.

Mr. J. Cypher, Cheltenham, staged a fine group, and was awarded a Silver Medal. An Award of Merit was given to Dendrobium nobile Duckworthiæ.

Messrs. H. Low & Co., Bush Hill Park, received a First-class Certificate for Cattleya Trianæ alba.

Messrs. F. Sander & Co., St. Albans, received a Vote of Thanks for a nice group.

ROYAL HORTICULTURAL.

At the meeting held at the Drill Hall, Buckingham Gate, Westminster, on March 12th there was a very brilliant display of Orchids, several fine groups being staged. The members of the Orchid Committee present were:—H. J. Veitch, Esq., in the chair; and Messrs. H. Ballantine, W. A. Bilney, T. W. Bond, J. Colman, H. J. Chapman, de B. Crawshay, J. Douglas, J. G. Fowler, E. Hill, H. T. Pitt, H. M. Pollett, J. W. Potter, F. A. Rehder, F. Sander, W. H. White, and W. H. Young.

W. Thompson, Esq., Staffordshire, staged a fine group of splendidly grown Odontoglossums, and was awarded a Silver Flora Medal. Prominent among them were Odontoglossum × excellens McBeanianum, O × e. nobilior, O. × Andersonianum delicatum, O. × Adrianæ Lord Roberts, O. Rossii majus, O. × Humeanum, and Cochlioda Noetzliana. A First-class Certificate was given to Odontoglossum crispum Queen Empress, with deep rose sepals, lighter rose petals, and a white lip with a yellow disc.

R. G. Thwaites, Streatham (gr. Mr. Black), sent a nice group, which received a Silver Banksian Medal. It contained a fine plant of Dendrobium nobile Cooksonianum, covered with flowers; some fine examples of D. × Ainsworthii, D. × Wiganiæ, D. × Kenneth, D. × Owenianum, and a pretty Odontoglossum Pescatorei. An Award of Merit was given to Dendrobium × Roeblingianum, a fine hybrid, with white flowers tinged with rose, and a yellow, hairy disc.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), staged a fine group, which was awarded a Silver Flora Medal. The group consisted chiefly of Dendrobiums, including a fine example of D. aggregatum, covered with flowers, together with Phaius × Norman, Sophronitis grandiflora, and a finely-flowered Miltonia × Bleuana.

J. Colman, Esq., Gatton Park, Reigate (gr. Mr. Bound), was awarded a Silver Banksian Medal for a nice group, containing Lælia anceps Stella, L. Jongheana, Cœlogyne cristata, Lælio-cattleya × Captain Percy Scott, (L.-c. × elegans × C. labiata flammea), with bright rose-coloured sepals and petals, a crimson-purple lip, and the throat covered with yellow, and Cymbidium Lowio-eburneum.

Mrs. Haywood, Woodhatch Lodge, Reigate (gr. Mr. Salter), sent Dendrobium × splendidissimum purpurascens, D. × Rubens, and others. An Award of Merit was given to D. × Ainsworthii Edithæ.

F. A. Rehder, Esq., Gipsy Hill, received an Award of Merit for Cypripedium × Ernesto, a hybrid of unrecorded parentage. The lip, petals, and dorsal sepal were brown in colour, with the outer margin of the latter white. He also sent a good variety of Dendrobium × Sybil.

Sir Trevor Lawrence, Bart., Burford, Dorking (gr. M. White), exhibited Odontoglossum × Andersonianum Dorman's variety, O. × Ruckerianum, and O. coronarium miniatum. A Botanical Certificate was awarded to Liparis tricallosa.

Captain Holford, Westonbirt, Tetbury (gr. Mr. Chapman), staged a well-grown and beautiful plant of Cymbidium × eburneo-Lowianum.

Messrs. J. Veitch & Sons, Chelsea, were awarded a Silver-gilt Flora Medal for a fine, large group, consisting wholly of hybrids. It included Dendrobium × euosmum leucopterum, D. × Wiganiæ, D. × Euryalus, D. × splendidissimum, D. × Wardiano-japonicum, D. × Ellisii, Lælio-cattleya × callistoglossa ignescens, L.-c. × Myra, L.-c. × Antimachus (Dominiana × Warscewiczii), L.-c. × Clonia, Phalænopsis × Mrs. J. H. Veitch, and Cymbidium × eburneo-Lowianum. An Award of Medal was given to Lælio-cattleya × Vacuna (C. guttata × L. cinnabarina), with pale yellow flowers and the front lobe of the lip deep crimson-purple.

Messrs. H. Low & Co., Bush Hill Park, received a Silver Flora Medal for a fine group, consisting chiefly of Dendrobiums, together with some remarkable varieties of Cattleya Trianæ and C. Schroderæ, Lælia Jongheana, Angræcums, Cypripediums and other species. Cattleya Trianæ formosa was particularly fine.

Mr. J. Cypher, Cheltenham, sent a fine group of Dendrobiums, and was awarded a Silver Flora Medal. The group included D. × Ainsworthii, D. × Rubens grandiflorum, D. × melanodiscus, D. × Cybele, D. atro-violaceum, D. nobile nobilius, and D. Findlayanum.

Messrs. F. Sander & Co., St. Albans, received a First-class Certificate for Cypripedium × Lord Derby Sander's variety.

M. Fl. Claes, Brussels, sent a fine collection of natural hybrid Odontoglossums.

AT the meeting held on March 26th, there was a fine display of plants, in spite of the severe frost. There were present of the Orchid Committee:—H. J. Veitch, Esq., in the chair; and Messrs. H. Ballantine, H. J. Chapman, W. Cobb, de B. Crawshay, J. Douglas, E. Hill, J. Hye-Leysen, H. Little, J. W. Odell, H. M. Pollett, H. T. Pitt, F. A. Rehder, T. Rochford, F. J. Thorne, R. B. White, W. H. Young, and J. O'Brien (hon. sec.).

Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), received

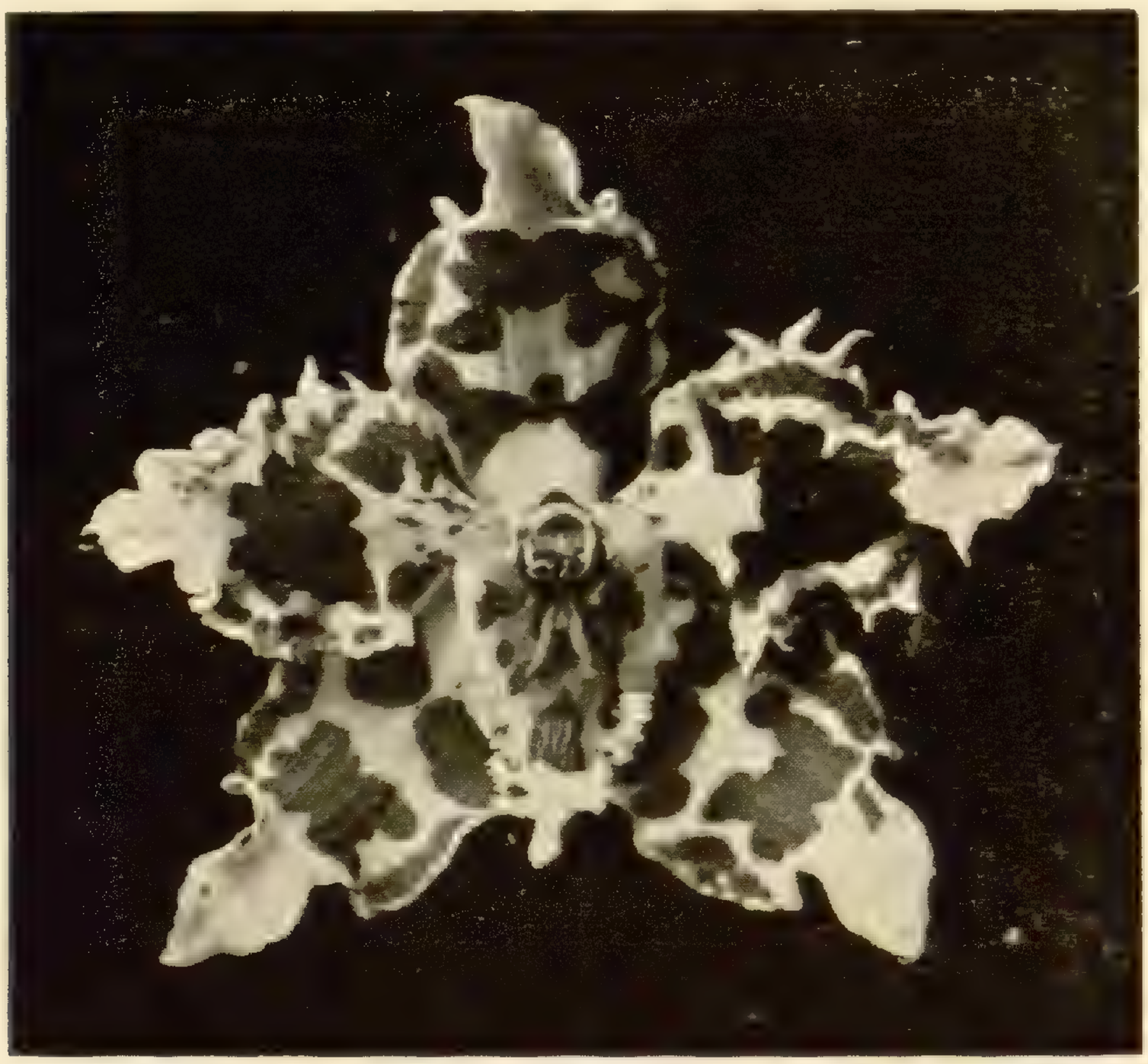

Fig. 22.—ODONTOGLOSSUM CRISPUM FRANZ MASEREEL.

a First-class Certificate for Odontoglossum crispum purpurascens, a very handsome form, with rosy-lilac sepals and petals, darker in the centre, and spotted with reddish-purple, and the ground colour of the lip nearly white.

M. J. Hye-Leysen, Ghent (gr. Mr. Coen), received a Silver-gilt Flora Medal for Odontoglossum crispum Franz Masereel, a fine plant in superb condition, bearing thirteen fine flowers (see figure above). He also showed a fine example of the yellow Lælio-cattleya × Myra "Etoile d'Or."

W. Thompson, Esq., Walton Grange, Stone (gr. Mr. Stephens), received a Cultural Commendation for the finely-spotted Odontoglossum crispum Victoria-Regina.

H. F. Simonds, Esq., Beckenham (gr. Mr. Day), received a Cultural

Commendation for four splendid plants of Dendrobium Jamesianum, bearing over 150 flowers.

A. H. Smee, Esq., The Grange, Carshalton (gr. Mr. Humphreys), showed Lælio-cattleya × Pallas, a fine example, and a well grown plant of Scuticaria Hadwenii, with six flowers, the latter receiving a Cultural Commendation.

J. Bradshaw, Esq., The Grange, Southgate (gr. Mr. Whitelegge), exhibited two fine forms of Cattleya Trianæ.

W. Cobb, Esq., Tunbridge Wells (gr. Mr. Howes), showed the richly coloured Odontoglossum triumphans dulcotense, and O. crispum Elamii, with fine flowers, blotched with red-brown.

D. O. Drewett, Esq., Riding Mill-on-Tyne, exhibited Cypripedium × Juno, and C. × Robert Etty (Godefroyæ × insigne Chantini), a fine distinct yellow flower spotted with purple.

Mrs. Haywood, Woodhatch Lodge, Reigate (gr. Mr. Salter), sent a very fine Dendrobium Ainsworthii × splendidissimum and D. × Virgil.

R. I. Measures, Esq., Ladymead, Sussex (gr. Mr. Wotton), exhibited a good example of Cypripedium × Zeus.

Sir Jas. Miller, Bart., Manderston, Duns. (gr. Mr. Hamilton), sent two fine spikes of Lælio-cattleya × highburyensis.

Dr. F. Pritchard-Davies, Maidstone (gr. Mr. Keylock), exhibited a good variety of Odontoglossum ramosissimum, having white flowers, with a large purple blotch at the base of the segments.

H. M. Pollett, Esq., Bickley (gr. Mr. Fry), sent a good example of Dendrobium Wardianum.

Sir Frederick Wigan, Bart., Clare Lawn, East Sheen (gr. Mr. Young), sent a fine Lælio-cattleya × Digbyano-Trianæ, and L.-c. × Cecilia.

Messrs. J. Veitch & Sons, Chelsea, staged a fine group, which gained a Silver Flora Medal. It included some good examples of Lælio-cattleya × Pallas, L.-c. × highburyensis, L.-c. × Myra, L.-c. × Antimachus, Dendrobium × Socius, D. × Wardiano-japonicum, D. × Aspasia, D. × Virginia, D. × euosmum, D. barbatulum, D. Wardanum, Oncidium sarcodes, Chysis × Sedeni, Epidendrum × Clarissa, and Cymbidium × eburneo-Lowianum.

Messrs. H. Low & Co., Bush Hill Park, staged an effective group, for which they were awarded a Silver Banksian Medal. The group contained Cattleya Trianæ, C. T. alba, C. T. tricolor, C. Schroderæ, Lælia Jongheana, Cypripedium Rothschildianum, Dendrobium nobile virginale, D. Brymerianum, D. crassinode, D. c. album, D. primulinum, and D. fimbriatum oculatum.

Mr. Ed. Kromer, Bandon Hill, Croydon, received an Award of Merit for Lælia Jongheana Kromeri, with very bright rose-purple sepals and petals, and heavy bands of purple on the lip.

Messrs. F. Sander & Co., St. Albans, staged a small group of hybrids, including some very fine hybrid Phaius, between P. × Marthæ and P. Sanderianus, a good example of Odontoglossum × excellens; and a fine Dendrobium × Euterpe. Odontoglossum crispum Sunshine received an Award of Merit. The flowers are yellow, tinged with purple at the back of the sepals, and the lip bore a large, red brown blotch. It seems to be a form of O. × loochristiense.

Mr. A. J. Keeling, Cottingley, Bingley, exhibited Lælia Jongheana and L. J. Keelingiæ, the latter having a purple band round the lip.

M. L. Linden, Brussels, sent two good forms of Phalænopsis amabilis.

Mr. John Weathers, Silverhall Nursery, Isleworth, showed a neat form of Odontoglossum crispum.

INCONSPICUOUS AND RARELY-CULTIVATED ORCHIDS.

At three o'clock an interesting paper by Mr. W. H. White on the above subject was read by the president, and was illustrated by a charming little group containing the following:—Pleurothallis Roezlii, P. ornatus, P. macroblepharis, Scaphosepalum pulvinare, Restrepia antennifera, R. elegans, Masdevallia leontoglossa, M. sororcula, M. triangularis, Dendrobium barbatulum, D. Kingianum, D. subclausum, D. × specio-Kingianum, Bulbophyllum tremulum, Cirrhopetalum picturatum, Cœlogyne Mossiæ, C. sparsa, Epidendrum Claesianum, E. fuscatum, Cymbidium lancifolium, Maxillaria Houtteana, Camaridium Lawrenceanum, Vanda cœrulescens, Saccolabium ampullaceum, Ponthieva maculata, Sauroglossum elatum, and Bonatea speciosa.

CALENDAR OF OPERATIONS FOR APRIL.

By H. A. Burberry, Orchid Specialist, King's Heath, Birmingham.

Slightly increase the temperature in all departments in accordance with the warmer conditions prevailing outside, and carefully guard against the atmosphere becoming excessively dry during cold north or easterly winds. All houses excepting the Mexican must now be well shaded from the bright sunshine, and especially the Cool or Odontoglossum house, where direct sunshine will at this season cause considerable injury to the plants.

The Mexican house is set aside for species that prefer sunshine, and succeed bette if never shaded, or only very slightly in the hottest weather. A good many species are known to delight in such conditions, and experiments are continually adding to the list. Here are the names of a few of them:—Lælia anceps, especially the white forms, L. grandiflora (majalis), and L. Gouldiana. The rest of the Mexican Lælias, such as L. albida, L. autumnalis, L. Marriottiana, and L. purpuracea must be more shaded, like

Cattleyas. Other sun-loving kinds are Thunias, Barkerias, Brassavolas, Rodriguezias, Mormodes, Cattleya Wakeriana, C. citrina, C. dolosa, Cyrtopodiums, Dendrobium albo-sanguineum, D. ochreatum, D. speciosum, Oncidium splendidum, Schomburgkias, and Vanda teres. Failing a Mexican house, a place should be reserved for these species at one part of the Cattleya or Intermediate house, which should be less thickly shaded than the other part. The syringe should now be well plied amongst them, using tepid soft water.

The deciduous Calanthes should now be re-potted. Use pots in proportion to the size of the bulbs and the number inserted in one pot. Well drain, about one half, as they are not deep rooting Orchids. Plant in an ordinary potting soil of fibrous loam, peat leafsoil, and sharp sand. Water very sparingly at first, and give a position in the warmest house, preferably on a shelf.

Sophronitis grandiflora is now starting to grow, and should have the necessary attention as to re-panning or top dressing. Being such a compact grower re-potting for the purpose of giving more root room is rarely necessary. It thrives best if suspended, is very partial to shade, and prefers plenty of moisture when growing, and until blooming is over, when it delights in a short rest. It succeeds best in the Cool house.

Odontoglossum Rossii and O. Cervantesii, as they pass out of bloom, will remain inactive and at rest until about midsummer, and will therefore require exceedingly little water during that period. Small pans or baskets to grow in, very little root disturbance, and a very careful application of water, even when growing, are the most essential points in keeping these species in a continually flourishing condition. They are very cool growing.

Odontoglossum grande is now starting to form new roots and growths, and should be attended to. It does best in a rather generous soil, composed of turfy loam, peat and sand, surfaced with sphagnum moss. Water carefully after re-potting, but keep moist and in a growing condition. It really succeeds best in the Intermediate house, but will grow cool.

Cœlogyne cristata and its varieties will now be fit for re-potting. It is not often that it requires it, the packing in of new material in any loose place, and the pegging down of new growths that show a tendency to grow over the rim, is generally all that is required. They do sometimes, of course, require larger pots and when so should have a compost of two parts lumpy peat, one of fibrous loam, and one of chopped sphagnum moss, and they should be potted rather firmly. It is generally not advisable to pull the moss to pieces when re-potting, but if the specimen is old, having a large number of old back pseudobulbs, it is better to do so, removing a large number of the old pseudobulbs, which are of no further use, and potting the younger portions of the plant together, which will grow much stronger

and soon make large new pseudobulbs. The old bulbs may be potted up by themselves, and will make further new leaves, which may ultimately be replaced with the mother plant, thus increasing the number of youthful and vigorous leads.

This principle of catering for the production of new pseudobulbs at the expense of the old should be well kept to the fore with all species of Orchids. All good cultivators fully realize the value of new vigorous growth for the production of healthy and handsome specimens. For example, you sometimes see an Orchid with only one or two leads, occupying enormous pots or baskets large enough to accommodate probably a dozen of such leads. The reason of this is that the old pseudobulbs have been carefully preserved intact when repotting, which renders a large pot necessary, thus taking up much room, but producing no more flowers than a small pot with the same number of leads. I may say that the new growths ar no stronger when backed by a long array of ancestors—in fact they frequently show unmistakable signs or degeneracy. The number of old pseudobulbs to leave per new growth may be a matter of opinion, and when advising on this matter I always prefer to be on the safe side by leaving one too many rather than one too few. An unhealthy, rootless and shrivelled specimen may be denuded of its old pseudobulbs with greater impunity than a strong healthy one. In the case of Dendrobiums which flower from the new wood, like D. nobile and D. Wardianum, I would leave one to three old bulbs, while those which flower from the old wood, like D. fimbriatum and D. thyrsiflorum may have from three to six. For Cattleyas and Lælias, and indeed all other species, from three to five, or even six in extra strong specimens, may safely be a guide.

There are other species of Cœlogyne that may now be potted such as C. Massangeana, C. tomentosa, C. speciosa, and any others that are starting. They all like a rather good bodied compost, and are better if more lumpy peat and less sphagnum moss be used, with a free addition of sharp sand and finely broken charcoal.

Cymbidium eburneum, C. tigrinum, C. Mastersii, and others in the same condition of growth, may now be repotted. They are deep and free rooting species, and should therefore have fairly large pots, and not over-much drainage. Peat, well intermixed with sharp sand and finely broken crocks or charcoal, makes the best compost for them. A little loam may also be added with advantage, but I don't advise too much, as it in time settles down so hard, preventing a free access of air and water. Pot rather lightly, working the compost well down between the roots. At first water very sparingly, but keep the surface and the foliage well moistened, to prevent loss of foliage and encourage growth. Intermediate temperature is the best.

Many other species will now also demand attention. On every hand signs of renewed activity are apparent, and no time must be lost in getting them each done in their turn, so that the very best season does not pass by fruitlessly. Most of the Cattleyas and Lælias, many Oncidiums and Odontoglossums, Dendrobiums, and many others, are done at this season with greatest chances of success, because the new roots push freely after resting, and the plants soon become re-established if the atmosphere is kept moist and genial.

This a good time to purchase newly imported Orchids, because they need not now lie about on the stages long, but may be almost immediately potted up, and will quickly root and become established. Keep them nicely shaded for a while, and they will soon be so far recovered as to take their proper places in the collection. I should add, perhaps, that too much liberty must not be taken with such sorts as Odontoglossums, Oncidiums, and Cypripediums, in the way of water or they may rot—it is safer not to let water touch them overhead for a short period, but to lay them on wet moss until they plump up and produce new roots, after which the danger of damping is over.

Odontoglossum citrosmum need not be kept dry any longer, with a view to blooming, for all that will bloom this season will now show their spikes. They may therefore be watered like other things. Some plants are particularly shy to bloom, and will not do so unless absolutely shrivelled during the winter. It is a pity to let a strong bulb miss flowering through not knowing this, for it is to my mind one of the most lovely Orchids we have, the long spiked varieties of course being the most graceful.

The question of manurial aid to Orchids seems to have dropped of late. I believe we were promised by someone the results of his experiences. I continue to strongly advise that for all practical purposes it be left alone. Use rain-water, pond-water, or river-water. If you are obliged to use hard tap-water, then so much the worse for you, and in this case only am I in favour of adding foreign matter thereto; just something that will tend to turn it to the nature of soft water. [But what?—Ed.

ORCHIDS IN SEASON.

Dendrobiums are now making a brave show in our collections, and, owing to the rapid progress made in hybridisation, seem likely to become still more important as winter-blooming plants. Several very beautiful forms are sent from the collection of N. C. Cookson, Esq., of Wylam-on-Tyne, by Mr. Murray, among which we must mention the very charming D. × Bryan, D. × Murrayi, a beautiful example of D. × Cybele, D. × Astræa superbum, having a large, very richly-coloured blotch at the apex of each segment, the

richly-coloured D. × Sibyl, and some good examples of D. nobile Cooksonianum and D. Wardianum, one of the latter having unusually short and broad petals, with small dark tips, and the lip very concave.

A good inflorescence of Dendrobium atroviolaceum is sent from the collection of F. M. Burton, Esq., Highfield, Gainsborough. Mr. Burton remarks that this Dendrobium does very well with him, and flowers abundantly. A good dark form of D. nobile is also sent, together with a large form of Lælia Jongheana.

A good form of Paphiopedilum × pavoninum is sent from the collection of H. J. Ross, Esq., of Florence, also a pretty rosy flower of Lycaste × Janetæ, from one of the plants mentioned on page 95.

Three forms of the pretty little Odontoglossum Rossii are sent from the collection of G. F. Laycock, Esq., Wiseton, Bawtry, Notts., one being the rare variety Ehrenbergii, in which the markings on the sepals and base of the petals are greenish-brown in colour. There are also two good O. crispum, one of which is very heavily blotched with red-brown on a clear white ground, though at present below the average in size.

A beautiful series of Dendrobiums is sent from the collection of W. P. Burkinshaw, Esq., Hessle, Hull, by Mr. Barker. It includes ten different forms of D. nobile, ranging from the richly-coloured D. n. nobilius to D. n. Amesiæ, which is white with the exception of a dark maroon disc, and the charming albino D. n. virginale, the intermediate stages showing considerable variation in size and richness of colouring. D. × Ainsworthii is represented by the varieties splendidissimum, flavescens, having a tinge of yellow in the sepals and petals, and illustris, a fine, rose-purple form with the usual dark disc. D. × Rubens is both large and very richly coloured, and the variety Apollo is about intermediate between it and D. × R. albens, which is nearly white with the exception of the disc. Other beautiful hybrids include D. × Wiganiæ, D. × Venus, the handsome D. × Pitcherianum roseum, D. × Owenianum, D. × xanthocentrum, D. × Sybil, D. × Rainbow, and D. × Luna, the whole forming a very charming group.

NOTES.

MEETINGS of the Royal Horticultural Society will be held at the Drill Hall Buckingham Gate, Westminster, on April 9th and 23rd, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The Manchester and North of England Orchid Society will hold meetings at the Coal Exchange, Manchester, on April 4th and 18th. The Orchid Committee meets at noon and the exhibits are open to inspection from 1 to 3 p.m.

A fine example of the beautiful Phaio-calanthe × grandis is sent from the collection of N. C. Cookson, Esq., Oakwood, Wylam-on-Tyne. It has rose-pink sepals and petals, and a light yellow lip with three red-purple stripes at the base. Its parents are Phaius grandifolius ♀ and Calanthe × Bryan ♂, and it seems to vary considerably in colour. A noble example of the Oakwood variety of Paphiopedilum × Calypso is also sent.

A flower of the very beautiful Odontoglossum crispum Queen Empress, to which a First-class Certificate was given by the R. H. S. on March 12th, is sent from the collection of W. Thompson, Esq., Walton Grange, Stone, by Mr. Stevens. The sepals are over an inch, and the petals 1⅝ inches broad, and of a beautiful rose-pink, with the lip nearly white, and unspotted. It is a very charming form.

A very handsome Lælio-cattleya is sent from the collection of the Right Hon. J. Chamberlain, M.P., Highbury, Birmingham, by Mr. Mackay, which, we think, may be a form of L.-c. × Cappei. It was purchased as a hybrid between L. cinnabarina and C. Aclandiæ, but the second parent was evidently a member of the labiata group, apparently C. Warscewiczii. A very brightly coloured form of D. nobile is also sent, which was purchased as a hybrid with an impossible parentage.

A flower of the superb Paphiopedilum × nitens magnificum is sent from the collection of W. G. Groves, Esq., of Windermere. It is the finest form of this hybrid which we have seen.

A flower of Lycaste lasioglossa is also sent from the same collection. It flowered out a little batch of half a dozen imported Lycaste Skinneri purchased three years ago. Plants in the collection of H. J. Ross, Esq., of Florence, and H. G. Aggs, Esq., of Dorking, appeared under similar circumstances, and we believe that most of the plants in cultivation have been introduced accidentally.

The remarkable whip-like Dendrobium teretifolium is also flowering well in Mr. Groves' collection, and is very well compared with Scuticaria Steelii in its habit of growth.

Flowers of Lælia Cowani, L. cinnabarina and L. flava are sent from the collection of Sir Trevor Lawrence, Bart., Burford, Dorking, by Mr. White, who points out how exactly intermediate the first-named is between the other two, both in colour and other details. The history of the plant was given in our last volume (pp. 78, 122). Mr. White should cross the two latter together, and note the result.

ORCHID PORTRAITS.

ARACHNANTHE CATHCARTI.—*Gard. Chron.*, 1901, xxix., pp. 149, 150, fig. 60.

CYPRIPEDIUM × LORD DERBY SANDER'S VAR.—*Journ, Hort.*, 1901, xlii., p. 255, with fig.

CYPRIPEDIUM × W. R. LEE, SANDER'S VAR.—*Gard. Mag.*, 1901, pp. 194, 195, with fig.

DENDROBIUM × AINSWORTHII SPLENDIDISSIMUM.—*Gard. Mag.*, 1901, p. 148, with fig.

DENDROBIUM × CHLOROSTELE JUNO.—*Gard. Mag.*, 1901, p. 148, with fig.

DENDROBIUM × DULCE.—*Gard. Mag.*, 1901, p. 148, with fig.

DENDROBIUM × EURYALUS. — *Gard. Mag.*, 1901, p. 148, with fig.

DENDROBIUM WARDIANUM.—*Journ. Hort.*, 1901, xlii., pp. 210, 211, with fig.

DENDROBIUM × WIGANIANUM.—*Gard. Mag.*, 1900, p. 167, with fig.

EPIDENDRUM CLAESIANUM, Cogn.—*Gard. Chron.*, 1901, xxix., p. 70, fig. 27.

LYCASTE LASIOGLOSSA.—*Gard. Mag.*, 1901, p. 179, with fig.

ODONTOGLOSSUM × ADRIANÆ MRS. ROBERT BENSON.—*Journ. Hort.*, 1901, xlii., p. 210, with fig.

ODONTOGLOSSUM × LOOCHRISTIENSE COUNDONENSE.—*Garden*, 1901, lix., pp. 160, 161, with fig. VAR. ROCHFORDIANUM.—*l.c.*, p. 161, with fig.

PHAIUS SIMULANS, Rolfe.—*Gard. Chron.*, 1901, xxix., p. 79, fig. 32.

PHAIUS TUBERCULOSUS, Blume.—*Gard. Chron.*, 1901, xxix., pp. 77, 79, fig. 31 ; *Gard. Mag.*, 1901, p. 144, with fig.

PHALÆNOPSIS × MRS. J. H. VEITCH.—*Journ. Hort.*, 1901, xlii., pp. 226. 227, with fig.

CORRESPONDENCE. &c.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they may have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.)

O. L. Odontoglossum crispum, handsomely marked, but very small ; probably weak and undeveloped.

W. C. The law of priority does not require the adoption of the earliest name, but the earliest CORRECT name, which is a distinction with a very essential difference.

B. J. B. Oncidium Forbesii. The autumn is its usual flowering period, but the species of this group are sometimes erratic in this respect.

W. J. R. Phalænopsis Schilleriana, a Philippine species, and if really from Java, was no doubt cultivated there.

J. W. A. A small form of Lælia crispilabia.

Photographs received, with thanks. E. P. C.

Received. J. B., O. O. W., E. F. C., J. C.

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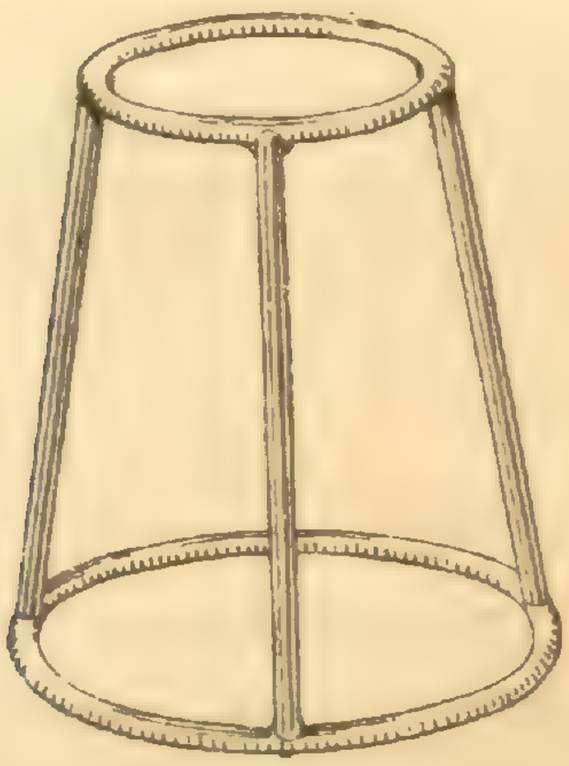

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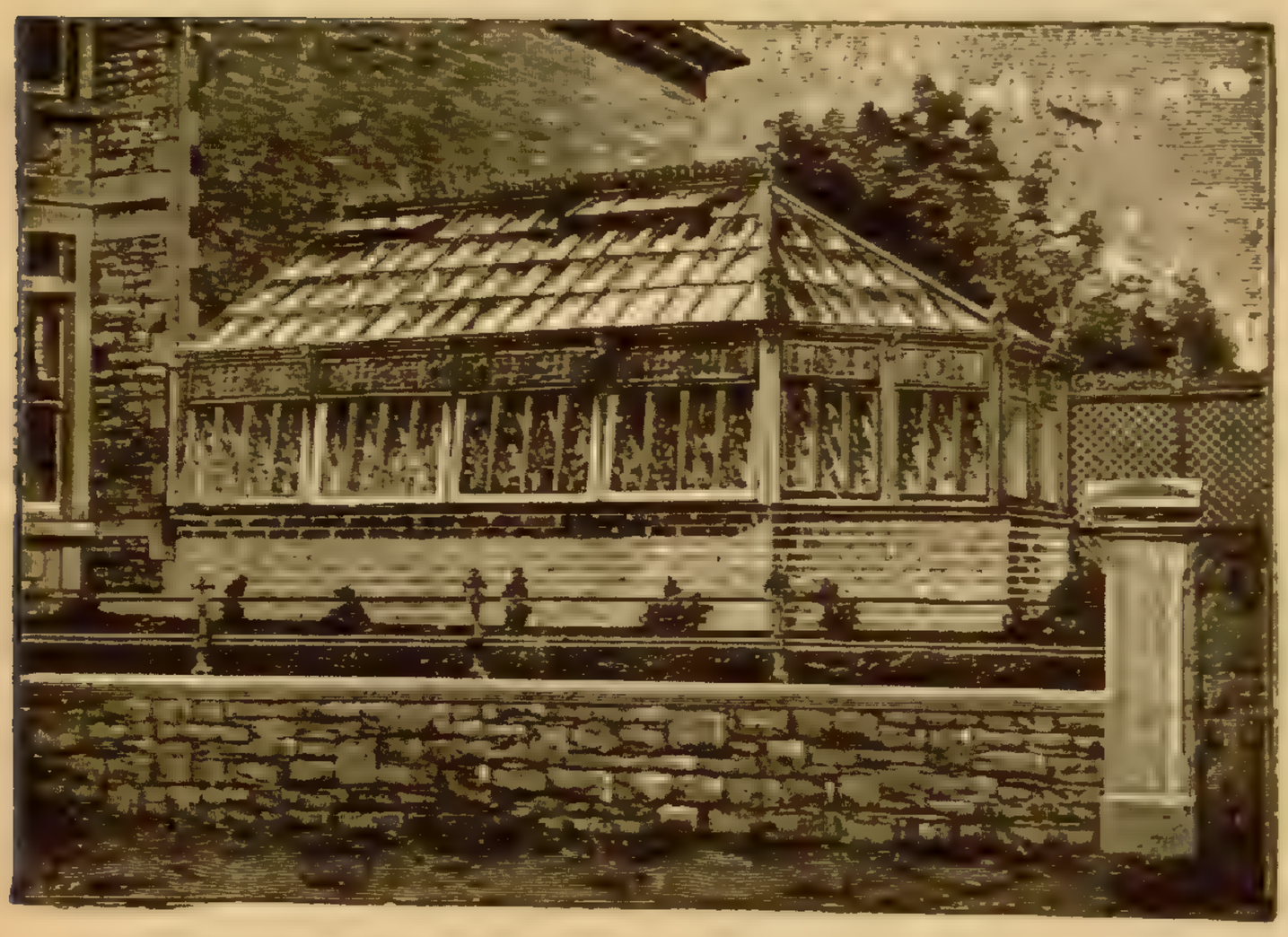

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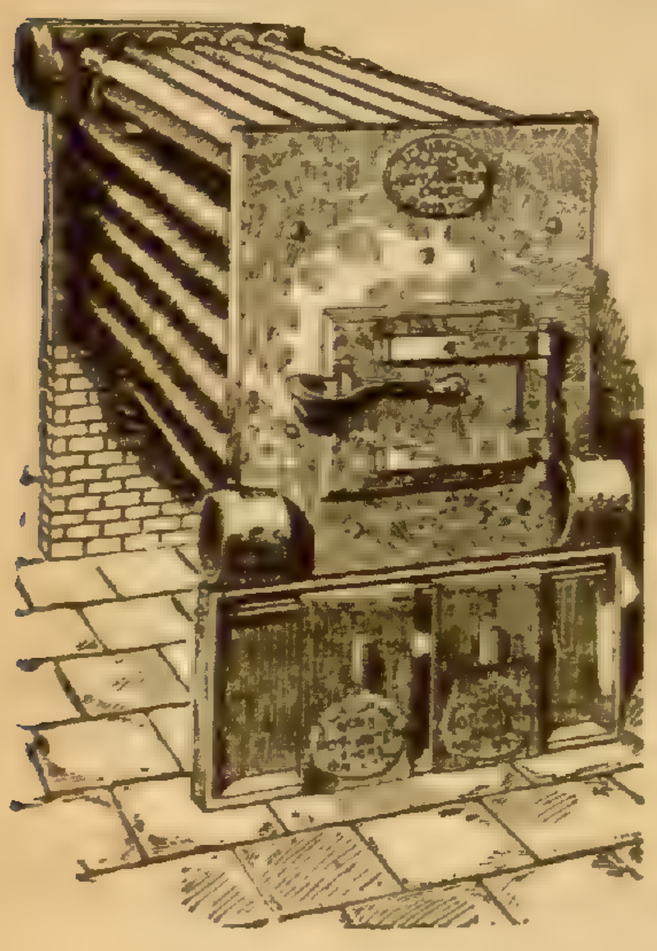

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THE ORCHID REVIEW:

An Illustrated Monthly Journal,

DEVOTED TO ORCHIDOLOGY.

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THE ORCHID REVIEW.

VOL. IX.] *MAY*, 1901. [No. 101.

DIES ORCHIDIANI.

"DEAR ARGUS, you have sometimes given us a little Latin dissertation among your instructive and entertaining notes, and I have sometimes wondered if you are aware that the title under which these notes appear is grammatically incorrect. Latin Grammars and Dictionaries agree that *dies*, though sometimes feminine in the singular, is *always* masculine in the plural, which would make the correct title *Dies Orchidiani*."

Just so! and I may remark that I have long known of the fact pointed out, but it so happens that I am not the inventor of the title. Whether it had appeared anywhere before it was used by the late Mr. James Bateman, M.A., F.R.S., I cannot say, but in any case "Dies Orchidianæ" was the title of a series of twelve interesting papers, by "Serapias," which appeared in the *Gardeners' Chronicle* between 1862 and 1864, and their authorship has long been known. In adopting that title I overlooked the grammatical question involved, and now that attention has been called to the matter it may be as well to amend it, in spite of precedent.

I read Mr. Orpet's article on "Raising Orchids from Seed," at page 110, with great interest, and hope it will stimulate others to give their experience in this "fascinating work," as it is very well termed. One derives a great deal of help from notes of this kind, in which the different experiments made are described so lucidly. If Mr. Orpet did not keep a record of his failures, he at all events gives us some useful hints as to what to avoid. His practice of sowing the seeds on the pots in which young seedlings are growing, rather than on the old parent plants, seems somewhat novel, and I think it an excellent idea, for it is easy to see that the conditions in the seedling house are specially favourable. This, of course, pre-supposes that some progress has already been made, for one must have young seedlings, if

not a seedling house, before such a course is possible. But let no one be discouraged by this remark; Mr. Orpet was a beginner once, and tried a good many kinds of seed-beds besides the old parent plants before he discovered his improved method.

I like his big DON'T in connection with the "immersion business." If there is one thing more than another which serves to confuse our records it is the dipping process. One starts off with a bucket of water and finds, let us say, a dozen seed-pans getting dry, on which as many different kinds of seeds have been sown. In goes number one and a few seeds are perhaps floated off, to be captured in turn by number two or some later one. A little repetition of this process serves to displace an appreciable number of seeds, some of which afterwards germinate, and thus get an erroneous record of parentage. Later on, perhaps, one sends the flower, with the record, to some expert in order to get it named, and he replies, "parentage impossible." Mr. Orpet's cross that has flowered under at least half a dozen different labels, alas! is not a solitary example. "No more dipping" is a good moral: a sprayer or fine syringe should always be used.

I note that Mr. Orpet uses the formula recommended by Mr. Cookson, "at every watering," and that it has "worked wonders" among the seedlings. This may interest Mr. Burberry, who at page 125 of the same issue remarks that "the question of manurial aid to Orchids seems to have been dropped of late." A few more "experiences" on this subject would certainly be interesting. Mr. Burberry seems to deprecate the use of manure generally; but what is that "something" to be added when one is reduced to the necessity of using "tap-water"? I shall look for an answer to that little question.

Some curious questions of identity keep turning up, and I note that the Scientific Committee of the R. H. S., at its meeting on April 6th, had some trouble over a species of Masdevallia, as witness the following from its report:—

"MASDEVALLIA SP.—Mr. Chapman brought the following species, upon which Mr. Rendle reports as follows:—Masdevallia Lowii, Rolfe (*Gard. Chron.*, 1890, i. 416) is said by Miss Woolward, in her monograph of the genus, on Consul Lehmann's authority—'who has had the advantage of examining Prof. Reichenbach's dried specimens'—to be the same as M. trinema, Rchb. f. (*Flora*, 1886, 538). As M. Lowii was not described till after Prof. Reichenbach's death, when his dried specimens could no longer be consulted, Consul Lehmann's opinion would seem to be based on memory. A comparison of the flower of M. Lowii with the description of M. trinema suggests that

Mr. Rolfe was justified in regarding his plant as a distinct species. The sepal tails of M. trinema are said to be much longer than the triangular bodies, whereas in M. Lowii they seem to be always markedly shorter. The bidentate tip of the column marks another discrepancy, that of M. Lowii bearing several fimbriations. Moreover, Reichenbach's statement that the dimensions of M. trinema are those of his M. Gaskelliana, points to a smaller flower than that of M. Lowii."

Now this question was dealt with some years ago (*Orch. Rev.*, iii., p. 335), when Mr. Rolfe, commenting on the same point, remarked:—"The species was described in 1886 . . . . without the slightest indication of its discoverer, who, Miss Woolward also says, is 'unknown,' but, as Consul Lehmann remarks, 'I first found it in 1883' it would appear that he is the unknown discoverer, and that it was before the specimens were sent to Reichenbach that he had the advantage of seeing them—for it is notorious that Reichenbach's Herbarium was as much a sealed book to his contemporaries during his lifetime as it is now after his death. If this supposition is correct, the identification must be accepted, in spite of some discrepancies in the original description" (which differences are then pointed out).

Now, the question arises, in face of these two somewhat divergent opinions, what are we to call our cultivated plant? If we call it M. Lowii we admit M. trinema to be an unknown species, in spite of the fact that its discoverer, who saw it alive, and collected a few examples to send to Reichenbach, recognizes the two to be identical. We have plenty of evidence that Consul Lehmann has an unrivalled knowledge of Masdevallias in their native habitats, and it is very unlikely that he would mistake so distinct a species as the one under discussion. The author of M. Lowii evidently recognizes this, and gives up his name in favour of the older one, and, under the circumstances, we cannot do better than follow him.

Mr. Rolfe, however, at the time asked a very pertinent question, namely, "whether, in order to secure priority for a name, it is sufficient to write a description which does not apply, refuse to let anyone see the specimen during his lifetime, and finally lock it up for a quarter of a century after his death? If so," he added, "the law of priority becomes an absolute farce. It is universally conceded that the mere publication of a name does not secure priority for it. It must be accompanied by a proper description, so that any competent person may recognize the thing to which it applies. The spirit of this rule has certainly not been carried out in the present instance, and it is a rather nice question how far the law of priority applies to it."

Before my next notes appear, the Temple Show will again be over, and I notice that a little novelty will be introduced into the proceedings by the competition for the Sherwood Silver Cup, which on this occasion is to be awarded to the best group of Orchids staged by an amateur in a space not exceeding one-hundred square feet.

ARGUS.

THE HISTORY OF ORCHID CULTIVATION

(*Continued from page 72*).

WE have spoken of the prominent part which Messrs. Loddiges, of Hackney, took in popularizing Orchid culture in the early part of last century, and before proceeding further we may mention a few striking species which were figured in their *Botanical Cabinet* during the period treated in our last paper.

Stelis tubata (t. 1601)—which shortly afterwards became the type of a new genus, when Lindley re-named it Physosiphon Loddigesii—was collected at Xalapa, Mexico, in 1828, by Deppe, who sent it to Messrs. Loddiges, and it soon afterwards flowered in their collection.

The now well-known Stanhopea oculata was also figured, under the name of Ceratochilus oculata (t. 1764), when Messrs. Loddiges remarked:—"We received this extraordinary plant in 1829 from Mr. Deppe, at Xalapa, in New Spain: it flowered in June, 1831," the author further alluding to its remarkable structure, the curious ring-like spots on the sepals and petals, and the eye-like spots at the base of the lip from which its specific name was derived.

Zygopetalon maxillare (t. 1776) was described as "a native of Rio de Janeiro: we received it in 1829 from our valued friend Mr. F. Warre: it flowered in 1831." The author then remarked:—"Almost every importation from South America contains something new in this increasingly interesting family. A few years since only two or three species were in cultivation, and now thay are almost innumerable, while each newly discovered kind is as diversified from every other, and as marvellous in its form, as the very first."

Oncidium crispum (t. 1854) was described as follows:—"This is a native of Brazil: it has been lately introduced, and in June, 1832, flowered with us for the first time, being about two feet in height. The flowers are elegant in form and of an unusual colour."

Dendrobium pulchellum (t. 1935) is said to be a native of India which had been cultivated for three or four years, "and flowered with us for the first time in February and March, 1833." It would appear, however, that, there is some mistake in the record, for the plant is not the D. pulchellum

of Roxburgh, and it has since proved to be a native of China. It is now known as D. Loddigesii.

Cycnoches Loddigesii (t.2000) was described as follows :—" This extraordinary plant is a native of Surinam : it was sent to us in 1830, by our kind friend Mr. Lance, and it flowered in May, and again in the winter of 1832. We have preserved it in the stove, suspended from a rafter, and planted in moss and broken bits of pots; but it has not yet increased." It may be added that the name was given by Lindley, who described the genus from this very plant. This plate concluded the work, it being remarked that the artist's health prevented it being carried on further.

Our last paper brought us down to 1832, in which year Mr. Cattley died, and his collection passed into the hands of Mr. Knight, of Chelsea. Orchids were steadily growing in popularity, and it may be remarked that, in 1833, that young enthusiast, Mr. James Bateman, sent Mr. Colley to Demerara to collect these plants, with what results we have already seen (*Orch. Rev.*, vi., pp. 11-12).

The novelties of 1833 were not very striking from a horticultural standpoint, and the majority were Brazilian, sent from Rio de Janeiro by Mr. William Harrison.

First we may mention the pretty little Leptotes bicolor (*Bot. Reg.*, t. 1625), the type of a new genus. Lindley remarked :—" It is to Mrs. Arnold Harrison that we are obliged for this pretty little plant, which flowered in her stove in April last. It is a native of the Organ Mountains of Brazil."

Cyrtochilum flavescens (t. 1627) is said to have flowered for the first time in the collection of Richard Harrison, Esq., of Aigburth, who communicated a specimen, together with a sketch from the pencil of Mr. Arnold Harrison. An additional note, to the effect that it is "a native of Mexico, whence it was imported by Mr. Tate about three years ago," is evidently erroneous, for the plant is now well-known to be Brazilian. It is now known as Miltonia flavescens.

Epidendrum oncidioides (t. 1623) was another Brazilian species from the collection of Richard Harrison, Esq., also accompanied by a sketch from Mrs. Arnold Harrison.

Gongora maculata (t. 1616) was also from the same collection, and it is stated that it was "originally introduced from Demerara, 1832, by Mr. Thomas Moss, of Otterspool. It flowered in the hothouse in May; its bunches of flowers were two and a half feet long, and hung down gracefully from the pot in which the plant was suspended." Lindley added the following interesting note :—" Many a strange figure has been met with among Orchideous plants, and numerous are the animal forms which botanists have fancied they could recognize among their singular flowers.

Some are said to bear little men and women swinging below their canopy of petals; others have appeared to carry the likenesses of lizards, frogs, and other reptiles, crouching among their leaves; while some have been compared to Oberons and Titanias hanging by their tiny arms from the bells where they have concealed themselves. To what the flowers of the plant now figured can be likened we profess not to know, unless to some of the fantastic animals of heraldry; a griffin *segreant*, as they term it, would do as well as any other for a comparison."

Lastly may be mentioned Oncidium Harrisonianum (t. 1569), whose history is thus given by Lindley:—

"This very distinct species was discovered on the Organ Mountains of Brazil by Mr. William Harrison, of Rio de Janeiro. We have taken the liberty of naming it after a family more distinguished than any other for the number of species they have introduced, and for the success with which they have cultivated them. Whenever Horticulture shall again find a historian, he will have to record the period when the difficulty of cultivating tropical Orchideæ, which was once considered insuperable, was successfully overcome. In such a history the names of Mr. William Harrison, of Mrs. Arnold Harrison, and of Mr. Richard Harrison, will stand among the foremost. . . . Our figure has been made from a drawing and specimen communicated by Mrs. Arnold Harrison in October, 1832."

In the *Botanical Magazine* for 1833 a few novelties were also figured, including Epidendrum Harrisoniæ (t. 3209) and E. pygmæum (t. 3233), two Brazilian species from the collection of Mrs. Arnold Harrison, which had been sent home by her brother at Rio; Bletia acutipetala (t. 3217), a native of South Carolina, which flowered at the Liverpool Botanic Garden; Catasetum trifidum (t. 3262) from the Glasgow Botanic Garden, and Pleurothallis prolifera (t. 3261) a Brazilian species from the collection of the Hon. and Rev. W. Herbert.

Perhaps the most remarkable addition of 1834 was Epipendrum bicornutum (*Bot. Mag.*, t. 3332), a plant now known as Diacrium bicornutum. It flowered in Earl Fitzwilliam's collection, at Wentworth, in April of that year, and Mr. Cooper stated that it was introduced from Trinidad by Messrs. Shepherd, of Liverpool. Cœlogyne flaccida was also figured in the same work (t. 3318), having been sent home by Dr. Wallich, and flowered in the collection just named. Bletia Shepherdi (t. 3319) is a native of Jamaica, and had been cultivated for some time at the Liverpool Botanic Garden before its distinctness was fully recognized.

The *Botanical Register* for 1834 also contains several novelties, and among them Batemannia Colleyi (t. 1714) and Grobya Amherstiæ (t. 1740), each of which represented a new genus. The former was "sent from Demerara to James Bateman, Esq., by Mr. Colley, his collector in that

country, who has just returned from a successful mission with a considerable number of epiphytes which are new to our gardens." The latter was sent from Brazil by Mr. Hayne, and flowered in the collection of the Countess Amherst, at Montreal, in September, 1834. The genus was named in compliment to the Right Hon. Lord Grey of Groby, "a munificent patron of Horticulture, and a most zealous cultivator of Orchideous epiphytes."

Oncidium ampliatum (t. 1699) now appeared in cultivation for the first time, being "procured in a living state by Richard Harrison, Esq., from whom the beautiful specimen now figured was received in March last." A note by Lindley shows the progress being made in Orchid culture. Speaking of the attempts being made to cultivate the plants in something like their native atmosphere, he added:—"That this is attended with very great success in obvious from the numerous splendid specimens which are from time to time appearing in the collections of Earl Fitzwilliam, Lord Grey of Groby, The Messrs. Harrison, Bateman, Huntley, Loddiges, and Knight, and the Horticultural Society."

Other species new to cultivation figured in the work are:—Monachanthus discolor (t. 1735), introduced from Demerara by Mr. Colley, and flowered in Mr. Bateman's collection; Liparis guineensis (t. 1671), a native of Sierra Leone, which flowered in the Horticultural Society's garden; Acanthophippium bicolor (t. 1730), a remarkable Ceylon plant from the same collection; Dendrobium aggregatum (t. 1695), which flowered in the collections of Mr. Bateman and Mr. Richard Harrison; the handsome Madeiran Orchis foliosa (t. 1701) which flowered with Messrs. Young & Penny, of Milford, near Godalming; and Catasetum luridum (t. 1667) which flowered with Messrs. Loddiges, in September, 1833, and shortly afterwards with Mrs. Arnold Harrison who died before the figure was published, for Lindley speaks of "our amiable and much lamented correspondent, the late Mrs. Arnold Harrison, whose truly splendid collection of Orchideous epiphytes has been added to the stock of Mr. Knight, of the Kings Road."

The year 1835 was marked by the appearance of at least two Orchids which are still among the most popular inmates of our houses, namely Vanda teres and Lælia anceps, both of which were figured in the twenty-first volume of the *Botanical Register*, together with no less than twenty-eight other species of various kinds, the majority of which were new. Vanda teres (t. 1809) was one of the numerous species of which living plants were brought to England by Dr. Wallich, on one of his visits home, and the drawing was prepared from a plant that flowered in the Duke of Northumberland's collection at Syon House, and was described as a "superb epiphyte." Lælia anceps (t. 1751) was imported from Mexico by

Messrs. Loddiges, and flowered in their collection in December, 1834. It was described as "one of the most interesting of the tribe that has yet made its appearance in our stoves." Other plants from the last-named collection were Oncidium citrinum (t. 1758), a native of Trinidad; Bletia reflexa (t. 1760), a Mexican species; Lepanthes tridentata (t. 1762), from Jamaica; Angræcum micranthum (t. 1772), a Tropical American plant now known as Campylocentrum micranthum; A. distichum (t. 1781) from Sierra Leone; Pleurothallis Grobyi (t. 1797) which flowered with Messrs. Loddiges, but was introduced from Demerara by Mr. Bateman, who named it in compliment to Lord Grey of Groby; Maxillaria densa (t. 1804), a Mexican plant now known as Ornithidium densum; Eulophia lurida (t. 1821), a native of Sierra Leone; Pleurothallis picta (t. 1825), introduced from Demerara (not improbably by Mr. Bateman); and Dendrobium densiflorum (t. 1828), another of Dr. Wallich's introductions. Among the others figured we may mention Brassia Lanceana (t. 1754) and Macradenia triandra (t. 1815), both introduced from Surinam by Mr. Lance, and flowered in the Horticultural Society's collection; Epipendrum gracile (t. 1765), a native of the Bahamas, which flowered in the same collection; Oncidium Lemonianum (t. 1789), from Havannah, and Maxillaria crocea (t. 1799) from Rio de Janeiro, both of which flowered in the collection of Sir Charles Lemon, at Carclew; the handsome Maxillaria cristata (t. 1811)—now known as Paphinia cristata—and Fernandezia acuta (t. 1806), both from Trinidad, which flowered in the collection of Mr. Knight, of Chelsea; Myanthus barbatus (t. 1778), a native of Demerara, which flowered with Mr. Low, and shortly afterwards at Chatsworth and in the collection of Mr. Willmore, of Oldfield, near Birmingham; and, lastly, a remarkable Brazilian plant which flowered in the collection of Lord Fitzwilliam, and was figured as Monachanthus viridis (t. 1752), but is now known to be the female of Catasetum macrocarpum.

A few interesting additions were also figured in the *Botanical Magazine* in 1835, among which we may mention the handsome Dendrobium densiflorum (t. 3418), from the collection of Lord Fitzwilliam; Epipendrum stenopetalum (t. 3410) from the Glasgow Botanic Garden, and Maxillaria Deppei (t. 3395), now known as Lycaste Deppei, from the collection of Lord Fitzwilliam at Wentworth.

It is evident that at this period Orchid culture was rapidly growing in popularity, and it may be added that we are now only a year distant from what Mr. Bateman has termed the *annus mirabilis* of Orchidology, which will be considered in our next paper.

(To be continued)

DENDROBIUM × SCHNEIDERIANUM.

OUR present illustration represents a plant of the beautiful Dendrobium × Schneiderianum, from the collection of E. O. Schneider, Esq., Whalley Range, Manchester, which was exhibited at a meeting of the Manchester Orchid Society on March 7th last, and to which, we learn, a First-class Certificate was given. The photograph was taken by E. P. Collett, Esq., of Charlton-cum-Hardy, to whom we are indebted for the opportunity of figuring it. It is a hybrid between D. Findlayanum ♀ and D. aureum ♂, and first flowered in 1887. The stems show an approach to the nodose character of the seed parent, and the flowers are fairly intermediate in character, with a strong approach to D. aureum in the velvety texture and crimson veining of the disc.

FIG. 23.—DENDROBIUM × SCHNEIDERIANUM.

ORCHID NOMENCLATURE.

"ARGUS" and Mr. Rehder have on pages 97 and 112 each given me some hints, and I will reply to them together. "Argus" says, "on the whole the arrangement has worked well." As this matter seems at present to turn upon the accuracy of the names of plants submitted to the committee no one can deny that the series of paintings have materially benefited the working of the arrangement. Before these were instituted it was all memory, and consequently partly confusion; and even now they are not enough in themselves alone, for properly prepared lists of all species and varieties should be made and kept up to date so that any old variety could be at once detected did it chance to appear under a new name. For not conforming to the rules, at present known by so very few exhibitors, one can hardly blame anybody, as without any official record but the "Certificate List" of the R. H. S., how is one to know what names have been given previously? For many things there are that are not in that select list of good things (many, too, that *ought* to be there).

I grant that "Argus" would find the registration an insuperable one. I know how laborious a work it is to enumerate the ever-increasing "novelties" in Odontoglossums alone, to say nothing of recording the introductions of the Hybridist in Cattleya, Lælia, and allied genera; but up to the present I think I have not found it too great a task. My great want is that, when I am at the Drill Hall, the majority of my labours and material are at Rosefield. Were all this done at a "Central Institution" all the material would be at once available, and *all* genera being treated alike, the mass of information would be of infinite value. Being but a specialist myself I cannot undertake what I know nothing about, and thus two of the great orders, Cypripedium and Dendrobium, are to me only dim, misty matters. I do not for a moment suggest that to a great many others they are not as clear as daylight, but they have not their materials at hand more than I have. We all need the same things with us, viz., the result of our researches.

Regarding my "Monograph of Odontoglossum crispum," which "Argus" refers to as my promised list, it was after long consideration abandoned, for I found that some people considered too much information would be therein contained, and as I did not intend to present it all over the Orchid World, I did not care to undertake a certain loss. A list of names and bare details, such as is contained in a Certificate list, would hardly meet the case to my satisfaction, but my compilations are a great aid to myself and friends.

I do not enumerate the new varieties of Cattleya Trianæ, therefore cannot reply to "Argus's" question. I should, however, think the list he

refers to has more than doubled since it was made by Mr. Rolfe; though I do not think many of the later comers are very much different from their predecessors. It is different with Odontoglossums; their markings lend so much variety; hybridity also lends more; and no two of all the numerous forms named could be mistaken for each other were they once seen in bloom together, even if their labels were changed, and then again shown to the person theoretically blindfold.

Mr. Rehder's suggestion could be worked out well to a very successful issue, and if it was given a fair trial, on the substantial basis of a guarantee, I have no doubt that the Society—or call it what you will—could be worked, and would grow to be an Institution of a very important nature in, and have great infl ence upon, this most interesting culture. I am afraid there are some Societies, or at least one, which could not be "combined." My idea is, not to combine the Societies, but to combine the records, and in that way to protect the Societies, and through them the individuals, and thereby to aid them so as to be able to tell them what at present they do not know, that is *all* that has been done by others. His ideas as to amplification of Certificates have been many times suggested before, and in due time I think even the R. H. S. must add some other distinctions to its B.C.; F.C.C.; and A.M.—they are not enough. The difficulty of refusing a F.C.C. to the best of anything that has appeared oftentimes comes before the R. H. S. Committee now, and will recur more so in the future.

If people will only take a little more interest in the matter, it will soon become a fact. A few years ago there was not a Manchester Society. It is an accomplished fact now.

DE B. CRAWSHAY.

The nomenclature of varieties which is again under discussion is a very important matter to many of us. With such a popular and variable species as Odontoglossum crispum we must have some means of distinguishing the different varieties, and the only way is to name them. Each of us can do this for his own collection very satisfactorily, but the result will not always bear inspection at the Drill Hall or at Manchester. Most of us would be glad to avoid making confusion, but the trouble is that no one seems to know all the varieties that have been properly named, and so we have to get our plants named as best we can. We certainly ought to have a register of varieties, and I think the best way to set about this would be for the owners of certificated plants to send a flower of each to the Editor, asking him to note it, and preserve it for future reference, and he would then soon be able to give us some useful comparisons. We want more light on this question, and I for one am prepared to support such a scheme, but I do not think a special society is required for the work.

LUX.

If a register was practicable of the names of all described or certificated flowers, and only those entered which were recognized—or rather the first to be recognized—on payment of a small fee, perhaps that would meet the case. Something of the kind should be done. R. A.

CALANTHE VESTITA AND ITS ALLIES.

THE question of the distinctness or otherwise of some of the Calanthes of the vestita group has again cropped up. Of late several of them have been lumped under C. vestita, but the result was not very satisfactory, and the appearance of C. rubens some years ago showed the necessity of a re-examination of the materials. The result has been to show that there are seven distinct forms, some of which vary considerably in colour, though at the same time retaining their own individual characteristics, as in the case of the genus Cattleya. To treat them as mere varieties only introduces needless complications; they are closely allied species, having their own characters and variations. The following is a brief outline of the group:—

C. VESTITA (*Lindl. Gen. & Sp. Orch.*, p. 250), though discovered by Dr. Wallich, in Tenasserim, as long previously as 1826, was not introduced to cultivation until 1848, when Dr. Kane, of Exmouth, sent it to Messrs. James Veitch & Sons, of Exeter, from Moulmein, together with the variety rubro-oculata. It was exhibited by Messrs. Veitch, at a meeting of the Horticultural Society, held in Regent Street, on November 7th of that year, and was awarded a large Silver Medal. Messrs. Rollisson, of Tooting, soon afterwards introduced it from the same district, when it was figured in the *Botanical Magazine* (t. 4671). It has a short, ovoid pseudobulb, large, soft, plicate leaves, which die away before the scapes appear, and comparatively large white flowers, with a four-lobed lip, which is yellow at the base in the original form—sometimes called var. luteo-oculata—and reddish purple in the variety rubro-oculata.

C. ROSEA is a nearly allied species, which was discovered in Moulmein by Thomas Lobb, and sent to Messrs. James Veitch & Sons, who flowered it at Exeter in December, 1851. It was described by Lindley (*Paxt. Fl. Gard.* iii., p. 35, t. 81) as Limatodes rosea, under which name it was long known, until Bentham showed that it was a true Calanthe, nearly allied to C. vestita. It differs specifically in having longer, more slender pseudobulbs, which are markedly constricted about the middle, and smaller, rose-coloured flowers, with an entire lip, and a much shorter spur. Messrs. Hugh Low and Co. afterwards received it from the Rev. C. Parish, when it was figured in the *Botanical Magazine* (t. 5312). Messrs. Hugh Low & Co. are said to have since imported it from the Langkawi Islands, off the West Coast of the Malay Peninsula, which is apparently confirmed by it having

flowered in the collection of A. Worsley, Esq., of Isleworth, in a batch of bulbs which also yielded C. rubens, a species known to grow in this locality (*Orch. Rev.*, iv., p. 84).

C. TURNERI is a plant which seems to have got into cultivation without having been regularly described. According to Messrs. Veitch, who introduced it, it was also sent by Thomas Lobb, from Moulmein, at about the same time as the preceding, and was named in compliment to Mr. J. A. Turner, of Pendlebury, near Manchester (Veitch, *Man. Orch.* vi., p. 71). Its history was given by Mr. James Douglas in 1878 (*Gard. Chron.*, 1878, ix., p. 105), its habitat being given as Java, which appears to be a mistake. It differs from C. vestita in having a larger, more slender pseudobulb, which is constricted just above the middle, and in having rather smaller flowers, which appear later in the season. The flowers are white, with a red-purple blotch at the base of the lip, or pure white in the variety nivalis.

C. GRANDIFLORA is a remarkable form, which was first described as C. vestita igneo-oculata (Rchb. f. in *Gard. Chron.*, 1876, v., p. 534). It is a native of Borneo, and flowered in the collection of Sir Trevor Lawrence, Bart., Burford, Dorking. In 1886 it was figured in the *Orchid Album* (v., t. 211) under the name of C. vestita oculata gigantea; and in 1889 as C. vestita grandiflora (*Rev. Hort. Belge*, xv., p. 121, with plate), though in the text (p. 122) it is called C. v. gigantea. It is a much more robust plant than C. vestita, and retains its leaves until the flowering period, in March or April, after which it commences to grow again without resting. The roots are also said to remain plump, instead of dying off, as in C. vestita. The flowers are very large, and cream-white, with a fiery red blotch at the base. Beccari also collected it in Borneo, whence also Mr. (now Sir) Hugh Low also sent a very fine painting.

C. LABROSA (Rchb. f. in *Gard. Chron.*, 1883, xix., p. 44) was sent to Messrs. James Veitch & Sons, of Chelsea, in 1878, by a correspondent in southern Burma, and was at first described under the name of Limatodes labrosa (Rchb. f., *l.c.*, 1879, xi., p. 202). The pseudobulbs are long and narrow, constricted in the middle, and the flowers smaller than those of C. vestita, the sepals and petals light yellowish brown, tinged with purple inside, and the lip broad, obscurely lobed, light rosy purple with some small darker spots, and white at the base. It is very rare in cultivation.

C. REGNIERI (Rchb. f. in *Gard. Chron.*, 1883, xix., p. 274) is a native of Cochin China, and was introduced by M. Regnier, of Paris. In the pseudobulbs it much resembles C. Turneri, and it blooms at about the same period, but the flowers are smaller, very variable in colour, and the lip less deeply lobed, with the two front lobes often united at the base. The typical form is figured in the *Garden* (1883, xxiv., p. 46, t. 397), and has the sepals and petals white, and the lip rosy carmine, with a darker blotch at the base. Of

named varieties may be mentioned, Williamsii (*Orch. Alb.*, iii., t. 34), having the sepals and petals pencilled with rose; Stevensii, white with a rose-coloured blotch at the base of the lip; and Sanderiana, flowers bright rose pink throughout.

C. RUBENS, the latest addition to the group, was discovered by Mr. Curtis in the Langkawi Islands, and was described in 1890 (Ridl. in *Gard. Chron.*, 1890, vii., p. 76). The author suggested that it had probably been previously been mistaken for C. rosea. Before this was known in cultivation some plants were distributed by Messrs. F. Sander & Co., which were said to have been collected in Borneo, by M. Fournier, of Marseilles, and these were described as C. vestita Fournieri (Rolfe, in *Gard. Chron.*, 1892, xi., p. 488), which afterwards proved identical with the preceding. This batch of plants included forms ranging from pure white through blush-pink to deep rose-pink. Other plants which also proved identical were said to have come from Cambodia, but these localities seem to require confirmation. A remarkably similar form has since been sent from the Philippines by Loher. Mr. Ridley has since pointed out that the Langkawi plant includes forms varying in colour from white or cream to deep rose (*Journ. Linn. Soc.*, xxxii., p. 331). The white and blush forms are now known as vars. alba and delicata, respectively (*Orch. Rev.* iv., p. 85. This species is most allied to C. Regnieri, but has considerably smaller flowers, which appear at about the same period.

R. A. ROLFE.

DENDROBIUM WARDIANUM AT WHETSTONE, EDGBASTON.

A MAGNIFICENT show of this lovely species was to be seen here during the latter end of April. A score or so of splendidly grown plants were then well in bloom, forming quite a pretty sight. One grand variety shone out far and away superior to the others. It has probably few, if any, equals in cultivation. We begged a couple of flowers to send you, the measurements of which are 4 inches across from tip to tip, and the lip and petals exactly 1½ inches across. [Two splendid flowers.—ED.] Chance and individual blooms sometimes come a great size, but in this case the pseudobulbs are carrying many such gigantic blooms, which is an annual occurrence. One enormous plant, and also a fine variety, had no fewer than 225 flowers. These plants, we understand, have been seven years in cultivation and are better now than ever. Who shall say that D. Wardianum is bound to deteriorate after this? Evidently the gardener, Mr. MacDonald, does not think so. Capitally bloomed examples of the beautiful Miltonia Phalænopsis were also conspicuous.

H. A. B.

ORCHIDS AT COUNDON COURT, COVENTRY.

GUIDED principally by the Orchid notes in the *Gardeners' Chronicle*, our steps instinctively turned at the earliest possible opportunity in the direction of the above address, the pretty country place of George Singer, Esq. Those able notes prepared us to some extent for the pleasure of seeing a good and well-grown collection of Orchids, but we are bound to admit that the actual pleasure exceeded our most sanguine expectations, and the temptation of asking permission to take a few notes of the same for the ORCHID REVIEW was irresistible.

Cypripediums here are an exceptionally strong point, but few, if any, of the very best hybrids and species being unrepresented. And how they grow! The oft heard expression, "They grow like cabbages," will probably convey the best description. It was positively refreshing to look at them, the healthy, luxuriant, stand up foliage being perfectly clean and undefaced, telling a tale of perfect happiness and contentment. That the house—which is a lean-to one having a south-west aspect—suits them as to position, and that the treatment meted out to them is excellent, is placed beyond doubt. Several grand varieties were in flower looking more majestic, standing out as they did from such bold, towering spikes, than ever. Grand plants of rarities were noted, amongst which may be mentioned C. × Gertrude Hollington, C. × Muriel Hollington, C. insigne Sanderæ, C. i. Harefield Hall var., C. bellatulum album, C. Charlesworthii album, C. × A. de Lairesse, C. × Lord Derby, C. × Hyeanum, C. × H. var. Surprise, C. × Gratrixiæ, C. × Penelope, C. × Gillianum, C. × Charles Richman, C. × Chapmanii, C. × Prewetti, C. callosum Sanderæ, and C. Lawrenceanum Hyeanum, which is enough to show how much the genus is here prized.

Passing on we enter the Cattleya House, and here also our eyes rested on objects of excellence. Rare hybrids and albinos were strongly represented, and thriving with as much freedom as the ordinary species, increasing their number of strong new breaks freely, a conclusive proof of healthy vigour. This house is a span-roofed one, and of a handy, workable size, having a centre step stage, on which Orchids in our opinion always look so well. Grand specimens of C. Mossiæ Wageneri and C. M. Reineckeana, C. chocoensis alba, C. Skinneri alba, C. Eldorado Wallisii, C. intermedia alba, C. Trianæ alba, C. labiata alba, and C. Gaskelliana alba, were noted, as also a large number of other specially named varieties of species and hybrids, a few of which were C. × Princess, C. × Wendlandii, C. × weedoniensis, Lælio-cattleya × Admiral Dewey, L.-c. × Lady Wigan, L.-c. × Macfarlanei, Lælia × Mrs. Mary Gratrix, C. labiata Sir George White, and C. Mendelii elegantissima, a relic of the famous Downside Collection.

Next we enter the flowering house, where a capital show of Orchids was arranged. Most striking is the rare Cattleya Trianæ Amesiana, a fine, bold flower with sepals and petals pure white and light rose lip. Another gem is C. T. Coundon Court var., a very large bloom of great substance and an enormous dark lip. C. T. Godiva is smaller but a perfectly round-shaped flower with a full and brilliant lip to correspond, C. Schrœderæ Neptune has a very large flower with sepals and petals a delicate blush white and lip streaked with dark rose—a very distinct variety. Other noticeable things in the show were two distinct and pretty varieties of Cymbidium Lowianum, fine specimens of Lælia Jongheana, a number of new Phaius crosses, and some very pretty Dendrobium crosses. But perhaps the most wonderful of all from a cultural point of view were two enormous specimens of Schomburgkia tibicinis in spike. These grow exceptionally well; and we could scarcely identify them as the same species. They are placed here to flower but are grown in a stove house hard by.

In a spacious corridor connecting the foregoing houses with others are a fine lot of Cattleya Dowiana aurea and C. Warczewiczii gigas suspended from the roof, also Vanda cœrulea and white varieties of Lælia anceps, this being found from experience the position where they thrive best.

Various ranges run from this corridor; one is the inevitable Cool house, and here Odontoglossum crispum and allied sections are likewise rich in beautiful and rare varieties. Nor do they occupy any secondary position in point of culture. Their requirements are equally well understood, resulting, of course, in fat, plump pseudobulbs, perfect foliage, and stout flower spikes. We are unable through want of space to enumerate many fine varieties seen and greatly admired, all of which were in a very fine condition.

Another house is almost entirely devoted to Phalænopses, and these again it would be hard to beat for uniformity and excellence of culture. The district of London has the reputation for growing this genus better than other districts, and in this we agree; still it would be difficult to find in London a better lot. This is saying a great deal, for the simple reason that these plants bloom annually, whereas the London grown plants rarely do so, on account of the smoky fogs. Rare and costly hybrids were here, such as P. × intermedia Brymeriana, P. × i. Portei, P. × Lady Rothschild, P. × Schilleriano-Stuartiana, and P. × casta.

In other departments were fine examples of Angræcums, Dendrobiums, Cœlogynes, &c., and we left perfectly satisfied with our visit, and satisfied also that the master is an enthusiastic Orchid collector, and that the gardener, Mr. Collier, is a *grower* of Orchids

H. A. B

DENDROBIUM × NESTOR.

DENDROBIUM × NESTOR, which is represented in the annexed figure, is a very handsome hybrid which was raised in the collection of C. Winn, Esq., The Uplands, Selly Hill, Birmingham, from D. Parishii ♀ and D. superbum anosmum ♂, and flowered for the first time in 1892 (O'Brien in *Gard. Chron.*, xi., p. 718). It has retained much of the dwarf character of the seed parent, but the flowers are considerably enhanced in size, being three inches in diameter, while the colour is a brilliant glossy rose-purple, with a large deep purple-crimson blotch on each side of the

Fig. 24. DENDROBIUM × NESTOR.

throat. Thus it may be said to combine the best characters of both the parents. It has the peculiar rhubarb scent of both its parents, which are intimately allied in general characters, though so distinct in size and in their geographical distribution. Its general character is well shown in the photograph. It still seems to be rare in cultivation, and is probably not propagated with such facility as some of those partly derived from D. nobile, but it appears to have a very good constitution, and is certainly a very handsome thing.

NOTICE OF BOOK.

The Amateur Orchid Cultivator's Guide Book. By H. A. Burberry, F.R.H.S. Third edition. 8vo, pp. 182, with four coloured plates and numerous illustrations. Blake & Mackenzie, Liverpool, 1900.

A third edition of this useful little work has just appeared, and we may congratulate the author upon the success which has attended his efforts to popularize this charming family of plants. The purpose for which the work was originally intended is described in the preface as "that of a text book conveying to the beginner information calculated best to assist him to take up, with reasonable chances of success, the beautiful study of Orchids and their culture," and the fact that a second edition is exhausted shows that it has not failed in its mission. The work forms a very useful stepping-stone to the larger manuals already in use, and we think that Mr. Burberry has been well advised in not departing from his original programme. The only additions which we notice are short chapters entitled, "Results of further experience, or the Amateur's Orchid House," and on the "Culture of Odontoglossum crispum," which, it is hoped, may be of service. We need only add that, not only beginners, but those who have already made some progress in Orchid culture will find much that is worthy of careful perusal in this useful work.

ODONTOGLOSSUM × ADRIANÆ VAR. BIJOU.

A VERY curious little Odontoglossum has flowered in the collection of J. Bradshaw, Esq., The Grange, Southgate. Mr. Bradshaw writes:—I enclose the most diminutive crispum I have ever seen. The plant has small bulbs and seems a pigmy, but is very healthy. It is flowering for the second time, and last time was the same. It came from an importation out of which I also had O. Hunnewellianum and some O. × Adrianæ." It is certainly a very peculiar form, and, though most like O. crispum, has the appearance of being a hybrid. The flowers measure scarcely two inches across the petals, which are white and unspotted, and the sepals have each one to four partially confluent brown spots about the centre, with a large blotch on the lip, in front of the crest. In colour it entirely resembles O. crispum, but the size and shape of the flower, some details of the crest, and the short column, with its nearly entire wings, show such a marked resemblance to O. Hunnewellianum as to suggest that it is a hybrid between the two species. The markings of O. Hunnewellianum are largely obliterated, just as are those of O. gloriosum in certain forms of O. × Andersonianum; and hybrids are notoriously variable.

R. A. R.

CALENDAR OF OPERATIONS FOR MAY.

By H. A. BURBERRY, Orchid Specialist, King's Heath, Birmingham.

WITH the growing season now fully upon us, it is important not to leave anything undone that will contribute to free and healthy growth. The warm growing kinds must have sufficient heat and moisture afforded to ensure a steady progress. They naturally require a good amount, but they can have too much. Do not, therefore, try to expedite matters at an express rate by *continually* maintaining a high degree of temperature quite independent of the weather. Work hand in hand with the weather prevailing, letting things jog along quietly and uninterruptedly when the latter is inclement, but when favourable turn it to the best account.

The following figures are given as a guide to the summer temperatures:—

EAST INDIAN HOUSE.—Day, without sun, 70° to 75°; with sun it may rise to 90° or even higher. Night 65° to 70°; and it may fall as low as 60° by the morning, doing no harm if only for a short period.

CATTLEYA OR INTERMEDIATE HOUSE.—Day, without sun, 65° to 70°; with sun 70° to 85°, or even higher if the weather is very warm.

COOL HOUSE.—This should now be kept as cool as it is possible to keep it, both day and night.

FIRE HEAT.—Happily, for the next few months the need for this will not be great. The Cool department should have none. The Intermediate houses will require it occasionally only, principally during cool, sunless days and cool nights, when a little may still be advantageous. The same, of course, must be said regarding the Warmest Houses. Whenever it is required, be very careful that enough only is employed—not too much—remembering that it is always harmful when it can be done without, and that Orchids never do so well as when it is entirely absent.

SHADING.—This must now be strictly attended to, or cases of scalding will very quickly ensue. Excepting for the few species which are known to prefer the bright light—and some were mentioned last month—I prefer to shade rather heavily. Russian garden mats are not any too thick, and make a lovely subdued light. They should, of course, be removed in dull weather and at night. It is a capital plan during exceptionally scorching days to use these mats as an additional shading to the ordinary roller blinds for the majority of Orchids, and more particularly so for the inmates of the Cool houses. For the midsummer months a good plan is to have painted on the glass a thin permanent shading of summer cloud or whitewash, in addition to the roller blinds. It prevents many mishaps, and is at the same time greatly appreciated by the plants. There is no necessity then for continually lowering and raising the blinds in choppy weather. The sun, too, has sometimes an awkward habit of popping out just when not

expected, and when no one may be at hand to quickly let down the blinds. The knowledge of a preventative from immediate danger is at such times a great relief.

DAMPING AND WATERING.—The process of distributing water between the pots and about the house, by means of a syringe or hose pipe, must now be done at the very least twice a day. Three times will not be too many. It keeps the atmosphere moist, which is most important during the whole of the growing season. The syringe should also be freely used amongst the plants overhead, but for this purpose tepid soft water should be used. As regards the watering at the root it will now scarcely be possible to go far wrong by giving over-much, as is the fear during the winter. Water well when the surface looks dry. It must be borne in mind, however, that plants re-potted during the spring, and the compost consequently light and porous, will require rather more frequent supplies than others which have only been top-dressed. This is on account of the compost of the latter, having become more closely settled down, being less accessible to the influence of the air.

VENTILATION.—There are times, of course, when it is perfectly necessary to open the top ventilators to prevent an over-heated and stifling atmosphere. They should, however, be opened with a good deal of caution, principally making use of those on the leeward side, so that the moist, growing atmosphere is not needlessly rushed away. Houses should always have ample means of bottom ventilation. The ventilation at the ends of the house should be opened before having recourse to the top ones.

FLOWERS SPOTTING.—This is a frequent source of annoyance, the chief cause of which is the damp atmosphere necessary for the growth of the plants, and it is bound to occur as soon as the warmth from the pipes is discontinued during the nights. The only possible preventative is to maintain a slight warmth in the pipes with, at the same time, a gentle circulation of air. It is a pity to lose a fine show of Odontoglossums through spot, and the little warmth necessary to avoid such a loss can scarcely have any ill effect from a cultural standpoint for a few weeks while the chief show is on. This is where the usefulness of a show or flowering house comes in, which can be kept at the right atmospherical condition for preserving the flowers in a perfect state. Often one may see beautiful Cattleyas during the summer spoilt nearly as soon as they expand, only through the cool moisture at night, which, on the other hand, is so advantageous to growth.

RE-POTTING.—Do as much of this work as is possible during this month. Some few Dendrobiums still remain to be done, and should now be attended to. D. Phalænopsis is one, and it is a species which is really best if done annually. Keep it to very small receptacles, and use a compost of chopped sphagnum and finely broken peat, well mixed together with

broken charcoal ; lay it in very lightly and settle the surface down with the rose syringe immediately. It grows best in the hottest house, and when in full growth loves large supplies of water. The foregoing also applies to D. formosum, now just pushing forth, as also to D. superbiens and D. bigibbum. D. thrysiflorum, densiflorum and allied species, having now bloomed, should also be re-potted if they require it. About once in two or three years is quite often enough for these, as also some of the other strong-growing kinds, such as D. Dalhousieanum, D. calceolus, and D. fimbriatum and its variety oculatum. They are grown well in pots. D. Dalhousieanum does well in strong heat, but the others named are better for a more intermediate kind of temperature.

Phalænopses, Saccolabiums, Aërides, Angræcums, and such like East Indian house species, if still undone, should now be attended to, being very careful not to injure the new roots. If pots are used, perforated ones are the best. Teak wood cylinders are splendid things in which to fix them. Surface with a thin light layer of sphagnum moss, and henceforth water liberally, so that the moss grows freely. If it is necessary in the course of attending to these species to release the old roots from their grip, they should first be soaked in a bucket of tepid water, when they will easily peel off as will also the roots of any species grown on blocks when a fresh block is required, as for instance Cattleya citrina and Oncidium Papilio.

The beautiful Cattleya superba is a basket Orchid, and does best when grown in the warmest house, as also does C. Eldorado. Both are partial to large supplies of water when growing. C. Lawrenceana also does better with such extra warmth, and likes plenty of moisture, always providing that the roots are in perfect condition, and the compost sweet and porous, otherwise it is apt to contract disease and rot. Now is an excellent time to do the necessary re-potting. Baskets or cylinders are really the best, next to which come perforated pots. C. Bowringiana is just starting, and should also be done. This grows freely enough in intermediate temperature, and when once potted in good materials lasts for several years, simply because it is a species which does not require so much water at the root. When potting, elevate it well above the rim, as the new growths have a tendency to drive downwards.

Top Dressing.—This operation is of greater importance than is often thought. It is frequently done for the sole purpose of giving a neat and fresh appearance, which undoubtedly it does, but the great benefit derived therefrom is that by breaking away the hardened crust or surface makes way for the ingress of air drawn in by the water, which then again freely passes through. Ease off as much of the old compost as can possibly be removed without unduly disturbing the roots, and replace with a very thin layer of sphagnum moss laid lightly on. Do not press it tightly in with a

pointed stick and afterwards trim off closely with a pair of scissors, as is often done, or you again replace the evil.

As to the query what to add to hard tap-water to cause it to become somewhat of the nature of soft rain or pond water, it is largely a matter of opinion. When forced to use such water direct I have been in the habit of adding either a pinch of guano or a small bag of soot thereto. It must, however, be done very sparingly or not done at all. I prefer an open tank outside, which should be filled and left exposed for a day or two before using, stirring in it a few spades full of garden soil and decayed leaf soil, and allowing it to settle, which brings it more to the nature of pond water, and is safer than either soot or guano.

SOCIETIES.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

THE meeting held at the Coal Exchange, Manchester, on April 4th, was again a very successful one, the awards including fourteen First-class Certificates and eight Awards of Merit.

J. Leemann, Esq., Heaton Mersey (gr. Mr. Edge), staged a group of fine things, which gained a Silver-gilt Medal. First-class Certificates were awarded to Cattleya Schrœderæ alba, Lælio-cattleya × callistoglossa magnifica, and Odontoglossum × loochristiense, and Awards of Merit to O. × Wilckeanum superbum and Cattleya Schrœderæ reticulata.

T. Statter, Esq., Stand Hall, Whitefield (gr. Mr. Johnson), also received a Silver-gilt Medal for a choice group. First-class Certificates were given to Dendrobium × Sybil superbum and D. × Snowflake, and an Award of Merit to Cypripedium × giganteum.

O. O. Wrigley, Esq., Bridge Hall, Bury, (gr. Mr. Rogers), gained a similar award for a choice group, containing among other things Dendrobium × Apollo album and D. nobile Wrigleyanum, each of which was awarded a First-class Certificate.

Mrs. Briggs-Bury, Bank House, Accrington (gr. Mr. Wilkinson), sent a neat little group, to which a Vote of Thanks was given. First-class Certificates were given to Odontoglossum crispum Charlemagne and O. × loochristiense King of the Belgians.

S. Gratrix, Esq., Whalley Range (gr. Mr. G. Cypher), sent a few fine things, gaining First-class Certificates for Dendrobium × Luna and Lycaste Skinneri alba, and an Award of Merit for Lælia purpurata Victoria.

A. Warburton, Esq., Vine House, Haslingden (gr. Mr. Lofthouse), gained a First-class Certificate for Miltonia × Bleuana grandiflora.

E. O. Schneider, Esq., Whalley Range, received an Award of Merit for Dendrobium × Leechianum.

Mr. W. Holmes, Timperley, staged a nice group, which received a Vote

of Thanks, his plants including the handsome Dendrobium × Dalhounobile and D. × Staffordi, each of which gained a First-class Certificate.

Mr. John Robson, Altrincham, staged a fine group, to which a Silver Medal was given, noteworthy among them being Cattleya Trianæ Ida and Lælia Jongheana Robson's var., each of which gained an Award of Merit.

Mr. J. Cypher, Cheltenham, also gained a Silver Medal for a fine group.

Mr. A. J. Keeling, Cottingley, Bingley, received a Vote of Thanks for a nice group, containing amongst others Dendrobium nobile High View var., to which an Award of Merit was given.

Messrs. James Backhouse & Sons, York, also received a Vote of Thanks for a nice group.

In our last month's report, the name of Mr. McLeod was given as gardener to S. Gratrix, Esq. It should have been Mr. George Cypher, who was appointed to the post a few months ago.

ROYAL HORTICULTURAL.

THE first meeting of the month was held at the Drill Hall, Buckingham Gate, Westminster, on April 9th, when there was a fine display of Orchids, among which Dendrobiums and Odontoglossums were especially prominent. The members of the Orchid Committee present were :—H. J. Veitch, Esq., in the chair, and Messrs. E. Ashworth, H. Ballantine, W. A. Bilney, H. J. Chapman, J. Colman, de B. Crawshay, E. Hill, H. Little, C. J. Lucas, H. T. Pitt, W. Thompson, E. J. Thorne, H. A. Tracy, W. H. White, W. H. Young, and J. O'Brien (Hon. Sec.).

W. A. Bilney, Esq., Fir Grange, Weybridge (gr. Mr. Whitlock), staged a magnificent group of Dendrobiums and other things, which was awarded a Silver-gilt Flora Medal. Besides the Dendrobiums there were also fine examples of Cattleya Schilleriana, C. Lawrenceana, C. citrina, Lælia harpophylla, Sophronitis grandiflora, and Lycaste Skinneri alba.

De B. Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), exhibited a collection of fine Odontoglossums, including several O. triumphans, O. × Adrianæ Theodora, O. × Andersonianum Juno with hexagonal markings, O. × Ruckerianum rosefieldense, and O. × Hallio-crispum. The large and handsome O. triumphans Lionel Crawshay received a Silver-gilt Flora Medal. O. × Denisonæ nebula, having white flowers, with small, cloudy spots on the petals, received an Award of Merit, as did also O. × loochristiense Mrs. de B. Crawshay, with large flowers, having a large, chestnut-red blotch on each of the sepals and a few smaller ones on the petals.

W. Thompson, Esq., Walton Grange, Stone (gr. Mr. Stevens), received a Silver Banksian Medal for a fine group of Odontoglossums, including O. triumphans Premier, O × Wilckeanum Stevensii, O. × W. concinnum, a finely-blotched form of O. crispum, and Cochlioda vulcanica grandiflora.

Baron Sir H. Schröder, The Dell, Staines (gr. Mr. Ballantine), was awarded a Silver Flora Medal for a collection of cut spikes, including O. × Andersonianum, with a branched spike of over forty flowers, O. × Leeanum, O. × excellens dellense, O. × Wilckeanum Queen-Empress, O. ramosissimum, a curious form of O. × Ruckerianum with confluent red blotches, and Lælia Jongheana.

Major Joicey, Sunningdale Park, Sunningdale (gr. Mr. Thorne), exhibited a group of fine plants, most of which were of Dendrobium

Fig. 25. DENDROBIUM ATROVIOLACEUM.

atroviolaceum, for which a Silver-gilt Flora Medal was awarded. One of the plants, about eighteen inches across, bore 125 flowers. There were also good examples of Diacrium bicornutum, Pescatorea Klabochorum, Cattleya Schrœderæ, Odontoglossum hastilabium, and Cymbidium Lowianum.

H.T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), was awarded a Silver Flora Medal for a fine group, including Cymbidium × eburneo-Lowianum with five spikes, Epidendrum × O'Brienianum, E. sceptrum, Galeandra Devoniana, Cattleya Schrœderæ, Lælia purpurata, Angræcum

fastuosum, A. leonis, Dendrobium nobile, and some good Odontoglossums. Miltonia vexillaria gigantea, Rosslyn variety, a large and richly-coloured form, received an Award of Merit.

E. Ashworth, Esq., Harefield Hall, Wilmslow (gr. Mr. Holbrook), showed fine examples of Cypripedium × ciliolare-Rothschildianum, C. × Miss Louisa Fowler, Odontoglossum × Adrianæ, and Lælia Jongheana. First-class Certificates were given to Lælia Jongheana Ashworthiæ, a fine albino with silvery white flowers and the usual orange coloured disc to the lip, and to Cattleya × Miss Harris var. E. Ashworth (C. Mossiæ ♀ × C. Schilleriana ♂), the latter having a purple-rose flower, with a darker lip and a tinge of yellow in the throat.

H. F. Simonds, Esq., Beckenham (gr. Mr. Day), sent a good form of Odontoglossum × Andersonianum and O. × Adrianæ Mrs. Simonds, the latter, a fine yellow form with a brown spot on the dorsal sepal and several small spots on the lip, receiving an Award of Merit.

R. B. White, Esq., Arddarroch, Garelochead, exhibited Odontoglossum × Ruckerianum Mrs. R. B. White, a fine form having cream coloured flowers tinged with rose, with the sepals and petals evenly spotted with dark red, which received a Award of Merit.

F. Crisp, Esq., Friar's Park, Henley (gr. Mr. Knowles), received a Cultural Commendation for a large Lycaste Skinneri, with thirty flowers.

J. B. Joel, Esq., Northaw House, Potters Bar, received a Cultural Commendation for a magnificently-grown plant of Cypripedium Rothschildianum with two spikes, having seven flowers in all.

J. F. Alcock, Esq., Northchurch, showed Cypripedium × Fraseri.

W. P. Burkinshaw, Esq., Hessle, Hull (gr. Mr. Barker), sent Cattleya Mendelii The Pearl, a white flower tinged with pink, two good forms of Cattleya Schrœderæ and C. × fimbriata vernalis (Mossiæ × fimbriata).

Mrs. Haywood, Woodhatch (gr. Mr. Salter), sent Dendrobium × Cybele, Lælio-cattleya × G. S. Ball (L. cinnabarina × C. Schrœderæ), and L. c. × Haywoodii.

Captain Holford, Westonbirt, Tetbury (gr. Mr. Chapman), showed Odontoglossum × Adrianæ, O. × Andersonianum, and Cypripedium niveum.

C. A. S. Ryland, Esq., Barford Hall, Warwick (gr. Mr. Jones), sent some good hybrid Cypripediums.

R. G. Thwaites, Esq., Streatham (gr. Mr. Black), sent a good form of Dendrobium × Euryalus.

Messrs. J. Veitch & Sons, Chelsea, staged a fine group, which received a Silver Flora Medal. It included a fine series of spring-flowering species and hybrids, specially noteworthy being Lælio-cattleya × Digbyano-Trianæ and an interesting group of Epidendrums. These were the original

E. Wallisii and E. Endresii, the primary hybrid between them, E. × Endresio-Wallisii, which, again crossed with E. Wallisii, yielded E. × elegantulum, of which several varieties were shown. This again crossed with E. Wallisii produced E. × Clarissa, which is also very variable, one beautiful form of which, E. × C. superbum, received a First-class Certificate. The sepals and petals were yellow, tinged and spotted with purple, and the lip violet. Masdevallia × Alceste (Asmodia ♀ × Veitchiana ♂), with large flower, dark red in colour, with the orange-coloured ground showing in places, received an Award of Merit.

At the meeting held on April 23rd, there was a splendid show of Orchids, several fine groups being staged. There were present of the Orchid Committee:—H. J. Veitch, Esq., in the chair; and Messrs. T. W. Bond, H. J. Chapman, W. Cobb, De B. Crawshay, J. Douglas, J. G. Fowler, E. Hill, J. W. Odell, H. T. Pitt, H, M. Pollett, J. W. Potter, F. A. Rehder, H. A. Tracy, W. H. White, W. H. Young, and J. O'Brien (Hon. Sec.).

Sir Trevor Lawrence, Bart., Burford (gr., Mr. White), staged a small group of fine things, and was awarded a Silver Banksian Medal. It included Odontoglossum crispum Stevensii, O. c. pardalinum, with fine purple spots, O. × mulus, Dendrobium × micans Euryalus, and Lælia × aurantiaca. An Award of Merit was given to O. luteopurpureum Burford variety, with large, heavily-blotched flowers; and the much fringed lip primrose yellow, blotched with brown in front of the crest.

De B. Crawshay. Esq., Rosefield, Sevenoaks .(gr., Mr. Stables), was awarded a Silver Flora Medal for a fine group of well-grown Odontoglossums, including O. × Hallio-crispum rosefieldense, O. triumphans Imperator, with olive green blotches, and other good forms. An Award of Merit was given to O. × Adrianæ Crawshayanum, a handsome flower of perfect shape, with the blotches arranged in irregular zones and the lip handsomely crisped.

H. T. Pitt, Esq., Stamford Hill (gr., Mr. Thurgood), was awarded a Silver Flora Medal for a nice group, including Miltonia Roezlii, M. vexillaria, Trichopilia suavis, some good Cattleya Schrœderæ, Galeandra Devoniana, a Lycaste Skinneri with broad sepals, and some good Odontoglossums.

J. Colman, Esq., Gatton Park (gr., Mr. Bound), showed a nice group, and was awarded a Silver Banksian Medal. It included Odontoglossum triumphans, O. Rossii majus, O. luteopurpureum radiatum, some good O. Hallii, including O. H. leucoglossum, O. × Andersonianum, Lycaste Skinneri alba, Oncidium sarcodes, Epiphronitis × Veitchii, Cymbidium Lowianum, C. eburneum, C. × Lowio-eburneum, and others.

R. B. White, Esq., Arddaroch, Garelochead, exhibited a fine group of

cut examples of Odontoglossum crispum, and was awarded a Silver Banksian Medal. It contained also O. × Andersonianum, O. luteo-purpureum, O. × Wilckeanum and Cattleya Schrœderæ.

G. Singer, Esq., Coundon Court, Coventry (gr. Mr. Collier), exhibited Cypripedium × W. R. Lee and C × Shillianum. A First-class Certificate was awarded to Odontoglossum luteopurpureum Coundon Court variety, a large and very richly coloured form, the spike being nearly three feet in length.

W. Cobb, Esq., Tunbridge Wells (gr. Mr. Howes), showed a good Odontoglossum triumphans. An Award of Merit was made to Oncidium Marshallianum sulphureum, a beautiful yellow form in which the usual brown spotting was nearly suppressed, being only present as a greenish shading.

W. M. Appleton, Esq., Weston-super-Mare, exhibited a good Cypri-pedium × Vipani.

G. W. Bird, Esq., West Wickham (gr. Mr. Redden), showed a good Odontoglossum × Andersonianum.

A. S. Hitchins, Esq., St. Austell, sent a pretty natural hybrid Odonto-glossum, believed to be a form of O. × elegantius.

Lord Llangattlock, The Hendre, Monmouth (gr. Mr. Coomber), exhibited Cypripedium × Lady Llangattlock (C × selligerum ♀ × C. Lawrenceanum ♂), with a fine well-shaped flower.

Sir Jas. Miller, Bart., Manderston, Duns. (gr. Mr. Hamilton), sent a fine Lælio-cattleya × Lady Miller (L. cinnabarina × C. Schofieldiana).

Sir Wheatman Parsons, Paddockhurst, Crawley, Sussex (gr. Mr. Wadds), sent Odontoglossum triumphans and Cattleya Lawrenceana, one of the latter plants having three spikes bearing twenty-five flowers.

J. S. Moss, Esq., Wintershill, Bishop's Waltham (gr. Mr. Kench), showed a good plant of Odontoglossum luteopurpeum.

F. A. Rehder, Esq., Gipsy Hill, sent Cypripedium × Ida.

Col. Shipway, Chiswick (gr. Mr. Walters), sent a good Masdevallia Schlimii.

H. F. Simonds, Esq., Beckenham (gr. Mr. Day) showed two good Cyrtopodium punctatum.

Mr. T. Rochford, Turnford Hall Nurseries, Broxbourne, was awarded a Gold Medal for a magnificent group of two hundred Odontoglossums, mostly forms of O. crispum, all splendidly grown. We noted O. c. Bonnyanum, O. c. Trianæ, O. c. xanthotes, O. c. The Gem, O. × loochris-tiense, and O. × Rochfordianum (Pescatorei × crispum), also some good Oncidium concolor. An Award of Merit was given to O. Wilckeanum Turnford Hall variety, a very fine form with light yellow ground, the sepals having large, dark brown blotches, and the petals and lip a few small similar

spots. An Award of Merit was also given to O. crispum Edward VII, a well-formed flower, tinged with light rose, and blotched with reddish-purple on the inner halves of the segments.

Messrs. J. Veitch & Sons, of Chelsea, were awarded a Silver Banksian Medal for a nice group, containing plants of Lælia × Latona, a good plant of L. × Digbyano-purpurata, having large, lavender-coloured flowers with a large fringed lip veined with purple, Cattleya intermedia alba, Lælio-cattleya × highburyensis, Odontoglossum × elegantius, and others. An Award of Merit was given to Lælio-cattleya × Cybele (L-c. × Schilleriana × C. Trianæ), a handsome hybrid with lavender tinted sepals and petals, and a three-lobed lip, white at the base, the disc primrose yellow, and the front lobe marbled and veined with bright crimson purple.

Messrs. Hugh Low & Co., Bush Hill Park, were awarded a Silver Banksian Medal for a nice group, containing a fine plant of Dendrobium Devonianum with twelve pseudobulbs bearing over three hundred flowers; a good plant of D. thyrsiflorum, D. Findlayanum, D. Brymerianum, D. chrysotoxum, Cattleya intermedia nivea, C. Schrœderæ, C. S. aurantiaca, Phaius × Cooksoni, P. × Norman, Odontoglossum cirrhosum, Oncidium concolor, Lycaste Skinneri alba, and others.

Messrs. B. S. Williams & Sons, Holloway, received a Bronze Banksian Medal for a group containing some fine plants of Vanda suavis, V. tricolor superba, Calanthe Sanderiana, two good plants of Cymbidium Devonianum, C. × eburneo-Lowianum, Dendrobium Wardianum album, D. nobile, Ada aurantiaca, Odontoglossum Pescatorei, O. crispum, O. triumphans, Masdevallia Shuttleworthii, Cattleya Mendelii, Cypripedium villosum, C. Boxallii nigrum, C. × Measuresianum, and others.

Mr. Ed. Kromer, West Croydon, showed Lycaste lanipes and Angræcum ichneumoneum.

Mr. J. Douglas, Edenside, Great Bookham, sent cut spikes of Phaius × Cooksoni and P. × Norman.

At page 121 of our last issue it was recorded that Lælia Jongheana Kromeri received an Award of Merit. It should have been a First-class Certificate.

Cypripedium Fairrieanum.—In 1870, there was in the collection of L. Van Houtte a stock of the charming Cypripedium Fairrieanum, of which specimens were retailed at ten francs each. To-day there remains only a single growth of this rare and favourite species, valued at from six to eight hundred francs or even more.—O. Ballif in *Chronique Orch.*, p. 317.

ORCHIDS IN SEASON.

DENDROBIUMS have been making a brilliant display of late, and the numerous beautiful varieties and hybrids which have recently appeared have introduced an amount of variety which could scarcely have been anticipated a few years ago. A beautiful series is sent by Mr. James Cypher, Cheltenham. It includes the chaste D. nobile virginale and some beautiful coloured forms of the species, some good forms of D. × Ainsworthii and the remarkably variable D. × Rubens, D. × Cybele, D. × Pitcherianum, a very fine form of D. aureum, the beautiful D. Wardianum candidum, and a few other good things in excellent condition.

A beautiful example of D. Wardianum is sent from the collection of Mr. John Holland, Wonham, Bampton, by Mr. Stacey, the flower measuring $4\frac{1}{4}$ inches across, and all the segments broad and splendidly developed; also a richly coloured form of Odontoglossum triumphans, and a flower of a hybrid raised from Lælia cinnabarina ♀ and Cattleya Lawrenceana ♂, which is a richly coloured form of Lælio-cattleya × highburiensis.

A very interesting series of Dendrodiums and other Orchids is sent by Mr. Jones, gardener to E. J. Lovel, Esq., Oakhurst, Oxted, Surrey. It contains a fine D. Wardianum, a richly coloured D. crassinode, and the beautiful natural hybrid between the two known as D. × Waltoni, two good forms of D. Findlayanum, one of which has the sepals and petals quite rose-pink in colour, the pretty little D. Devonianum, two forms of D. aureum, others of D. nobile, of which the variations seem to be almost without limit, and a few examples of D. × Ainsworthii. There are also two pretty forms of Cattleya Schrœderæ, a handsomely spotted form of Odontoglossum crispum, in which the markings are pretty evenly distributed over all the segments, also a nearly pure white form, a flower of O. cirrhosum, and the brilliantly coloured Lælia cinnabarina, Masdevallia ignea, and Sophronitis grandiflora, the whole forming a very charming little group.

Another beautiful series of Dendrobiums is sent from the collection of O. O. Wrigley, Esq., Bridge Hall, Bury, by Mr. Rogers. It includes several good forms of D. nobile, and among them the charming D. n. virginale, D. n. Ballianum, D. n. murrhiniacum, D. n. nobilius, and D. n. Wrigleyanum, a distinct and pretty blush-white form, having the disc of the bright purple without any of the usual maroon colour, which was exhibited at the Manchester Orchid Society's meeting on April 4th last. Among the hybrids are the richly coloured D. × Socius, D. × Pitcherianum, D. × Ainsworthii intertextum, the charming D. × Wiganiæ, D. Juno, D. × Luna, and two forms of D. × Rubens, one being the variety albens, and having the flowers nearly white, with the exception of the maroon disc.

A very dark and heavily marked form of Odontoglossum × Denisonæ is sent from the collection of N. C. Cookson, Esq., Oakwood, Wylam-on-Tyne. The sepals are dark, blackish purple, broken up with a few light yellow markings, and the petals are very handsomely blotched with the former colour. Two forms of O. × excellens are also sent, and a small form of O. crispum in which the blotches on the sepals and petals are aggregated together just above the middle.

A very fine and brightly coloured form of Lælia Boothiana is sent from the collection of E. F. Clark, Esq., Chamonix, Teignmouth, which serves to remind us that for some reason this plant is not very often met with in first-rate condition, indeed it seems to be less common in cultivation than it ought to be, considering its beauty and distinctness. A flower of the handsome Odontoglossum sceptrum is also sent.

Two very beautiful forms of Cattleya Schrœderæ are sent from the collection of W. P. Burkinshaw, Esq., of Hessle, near Hull, by Mr. Barker, one of them having a particularly deep orange-coloured lip. This Cattleya is an extremely beautiful one, its delicate blush-pink flowers being very graceful in shape, and as fragrant as heliotrope.

MOOREA IRRORATA.

A FINE plant of this remarkable Orchid has just flowered at Kew, producing two spikes which bore respectively sixteen and eight flowers. It is part of the original Glasnevin plant from which the genus was described about eleven years ago (Rolfe in *Gard. Chron.*, 1890, viii., p. 7), which, curiously enough, got into cultivation without any clue to its origin, except that it was purchased as Lycaste gigantea, which suggests for it a habitat somewhere on the eastern slopes of the Andes, somewhere between Ecuador and Venezuela. It is believed to have been introduced by Messrs. Shuttleworth, Carder & Co., for a fine leaf and inflorescence of the same species were found in a small collection of dried Orchids which was presented to Kew, but the specimen was unlocalized. The original spike bore thirteen flowers, and in March, 1892, it threw up two spikes, one of which was exhibited at a meeting of the Royal Horticultural Society, and was awarded a First-class Certificate. It was also figured in the *Gardeners' Chronicle*, (1892, xi., p. 489, fig. 73), and *Botanical Magazine* (t. 7262). It is a noble and handsome Orchid, and bears two very broad plicate leaves at the apex of the pseudo-bulbs, and erect flower-scapes, about two feet high. These come up with and close to the sides of the young growths, both having separate basal sheaths. The flowers are about $2\frac{1}{4}$ inches in diameter, with the sepals and petals of a peculiar orange-brown shade except at the base, where they are yellowish white, and the lip light yellow, spotted with red on the front lobe

and crest, and transversely barred with deep purple brown on the side lobes. The genus is allied to Houlletia, but differs in various structural details. The Kew plant is part of the original one from Glasnevin, and we believe that these are the only plants known in cultivation, or at all events which have flowered. The genus was dedicated to Mr. F. W. Moore, the able curator of the Glasnevin Botanic Gardens.

NOTES.

THE next meeting of the Royal Horticultural Society will be held at the Drill Hall, Buckingham Gate, Westminster, on May 7th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The Great Annual Flower Show will be held in the Inner Temple Gardens, Thames Embankment, on May 22nd, 23rd, and 24th. Class 24 is devoted to Orchids, and as on previous occasions Silver Cups and Medals will be awarded according to merit. The Orchid Committee will meet at 11 o'clock a.m.

On this occasion the Sherwood prize—a Silver Cup value ten guineas, presented by N. N. Sherwood, Esq., V.M.H. and Past Master of the Worshipful Company of Gardeners—is offered for the best collection of Orchids shown by an amateur in a space not exceeding 100 square feet. Entries must be sent to the Secretary eight days before the show.

The last number of the interesting little *Dictionnaire Iconographique des Orchidées* contains figures of Calanthe vestita rubro-oculata, C. × Veitchii, Catasetum × splendens var. Lindeni, Cattleya Harrisoniana alba, C. Walkeriana, the charming Chondrorhyncha Chestertoni, Cypripedium × Minos var. Youngii, Lælio-cattleya × Herode, Masdevallia erythrochæte, Oncidium tigrinum var. Montefioræ, Stenorrhynchus speciosus var. maculatus, and Zygopetalum rostratum.

A good form of Dendrobium × Pitcherianum is sent from the collection of Eustace Smith, Esq., of Wylam-on-Tyne. It was purchased as an imported D. nobile, but has the marked character of this hybrid, especially in the coloured disc of the lip being restricted to the basal part only. The apex of the lip and upper part of the sepals and petals are bright rose-purple, giving the flower a very effective appearance.

A flower of the charming albino Paphiopedilum × Maudiæ is sent from the collection of T. Statter, Esq., Stand Hall, Whitefield. We need not repeat its history, but refer our readers to page 17 of our January issue, where its portrait may also be found.

Mr. W. J. Stables, who was for six years in his father's nursery at Ulverstone, and five years in the Orchid houses of A. J. Hollington, Esq., Forty Hill, Enfield, has been engaged as Head Gardener and Orchid Grower to De Barri Crawshay, Esq., Rosefield, Sevenoaks.

Mr. J. Rowley, formerly foreman at Longford Castle Gardens, Poltallock, Waddesdon, and during the last two years Orchid Foreman at Blenheim, has been engaged as Head Gardener to the Hon. Voilet Monckton, Busbridge Hall, Godalming.

ORCHID PORTRAITS.

ANGRÆCUM FASTUOSUM.—*Journ. Hort.*, 1901, xlii., p. 297, with fig.

CŒLOGYNE PANDURATA.—*Journ. Hort.*, 1901, xlii., p. 275, with fig.

CŒLOGYNE VEITCHII, Rolfe.—*Bot. Mag.*, t. 7764.

CYPRIPEDIUM EXUL, MAJOR JOICEY'S VAR.—*Journ. Hort.*, 1901, xlii., pp. 310, 311, with fig.

CYPRIPEDIUM × LATHAMIANUM VAR. LATISEPALUM.—*Lindenia*, t. 732.

DENDROBIUM HOOKERIANUM, Lindl.—*Lindenia*, t. 730.

EPIDENDRUM PRISMATOCARPUM.—*Gartenwelt*, 1901, p. 290, with fig.

GALEANDRA BATEMANII, Rolfe.—*Lindenia*, t. 729.

LÆLIA JONGHEANA KROMERI.—*Journ. Hort.*, 1901, xlii., p. 319, with fig.

LIPARIS TRICALLOSA, Rchb. f.—*Gard. Chon.*, 1901, xxix., p. 225, fig. 85.

MASDEVALLIA DEORSUM, Rolfe.—*Bot. Mag.*, t. 7766.

MOOREA IRRORATA, Rolfe.—*Gard. Chron.*, 1901, xxix., p. 248, fig. 94, 95; *Journ. Hort.*, 1901, xlii., pp. 275, 277, with fig.

ODONTOGLOSSUM CRISPUM PURPURASCENS.—*Gard., Chron.*, 1901, xxix., p. 233, fig. 88; *Journ. Hort.*, 1901, xlii., p. 275, with fig. VAR. QUO VADIS.—*Lindenia*, t. 731. VAR. ROSSENDALE.—*Gard. Chron.*, 1901, xxix., p. 249, fig. 96.

VANDA TERES.—*Gartenwelt*, 1901, pp. 289, 291, with fig.

CORRESPONDENCE. &c.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they may have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.)

E. H. Dendrobium nobile, a form with broad segments. The species varies enormously.

W. B. Dendrobium tortile.

A. H. Apparently one of the numerous forms of Dendrobium × Rubens.

W. S. Oncidium insculptum.

J. R. We should say from Paphiopedilum × Harrisianum and P. Druryi. Next month.

E. K. Angræcum ichneumoneum.

Portraits received with thanks. E. P. C., I. B.

Several notes are unavoidably held over until next month.

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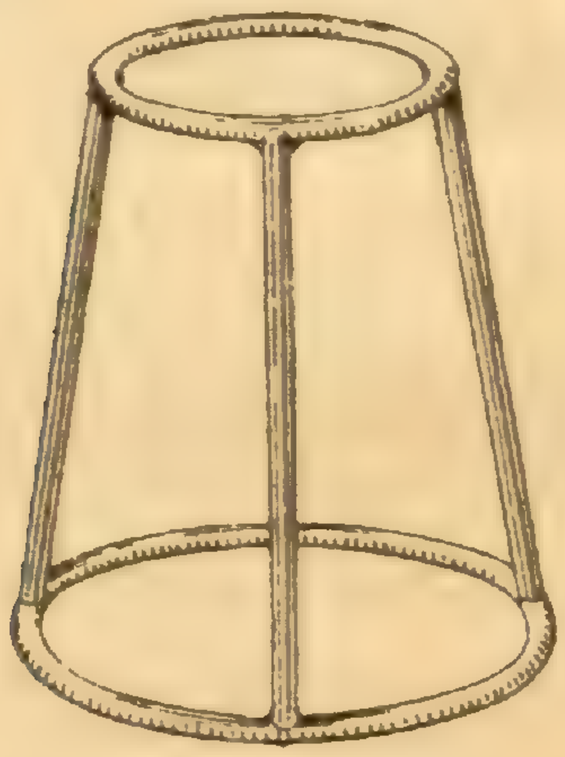

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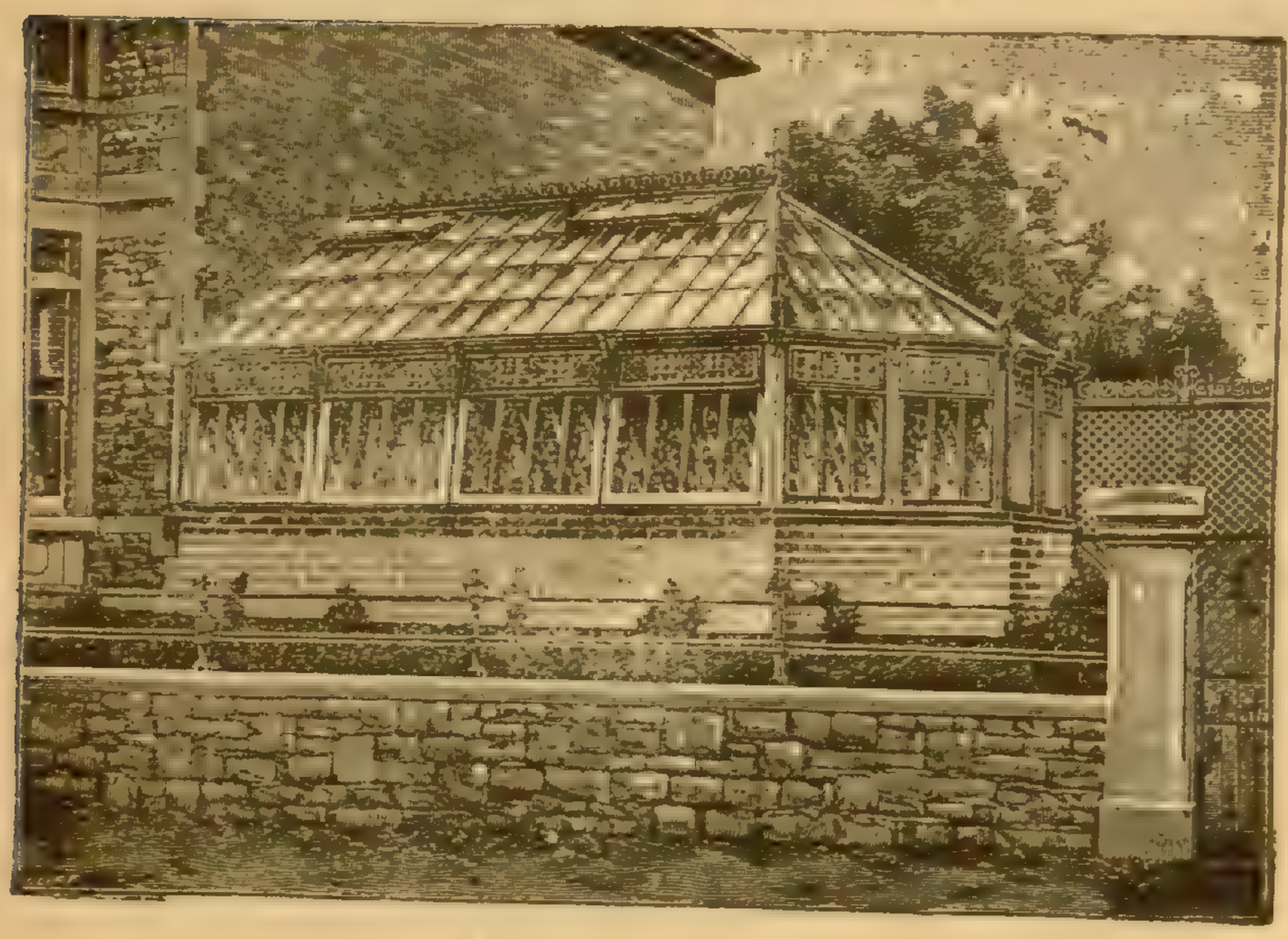

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THE ORCHID REVIEW:

An Illustrated Monthly Journal,

DEVOTED TO ORCHIDOLOGY.

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THE ORCHID REVIEW.

VOL. IX.] *JUNE*, 1901. [No. 102.

DIES ORCHIDIANI.

FORTUNE continues to smile on the Temple Show, and the fourteenth annual gathering has again been a great success. Favoured by fine weather from first to last—almost ideal weather for the time of year—the crowds of visitors were apparently as great as ever, and the plants were in excellent condition. Of course one Temple Show is much like another; the same exhibitors, the same old places, and pretty much the same combinations of species; but the conditions under which the show is held, and particularly the limited space, do not admit of much variation in the way of arrangement, though if this tends to greater selection in the way of exhibits it is not an unmixed evil. There are two circumstances which help to keep the Temple Show popular: it is the great annual reunion, which draws kindred spirits together, to compare notes, renew old acquaintances, and make new ones; and there is the certainty of finding a good show, with a certain number of novelties or varieties. Novelties will always be a source of attraction, and the supply is likely to continue, for before the importer had slackened his hand the hybridist had taken the matter up, with the result that there are thousands of seedlings in existence whose flowering is only a question of time, and almost every day serves to strengthen our confidence in what the ultimate result of all this activity will be.

But to return to the present Temple Show. Even all Temple Shows are not alike, and on the first hasty look round I soon discovered that there was something missing. For the first time, so far as I can remember, there was no group from the President, Sir Trevor Lawrence, and what that means can easily be imagined by those who have seen the rich and varied collections staged in former years. No other collection would have been so much missed, for in no other are those interesting botanical rarities so

well represented, and I hope their absence on this occasion may prove to be only an exceptional circumstance.

The Sherwood Silver Cup, offered on this occasion for the best collection of Orchids staged by an amateur in a space not exceeding one hundred square feet, was won by Sir Frederick Wigan with a superb group, in which richness and variety combined with good culture and tasteful arragement to form a very charming picture, of which details will no doubt appear in your report. One of the plants was a very remarkable novelty, namely, a hybrid between Lælio-cattleya × Aphrodite and Lælia Digbyana, called Lælio-cattleya × Edgar Wigan, to which a First-class Certificate was given. It is a first-rate addition to a group of hybrids which seems likely to occupy a very prominent position in a few years' time, namely, those from Lælia Digbyana, whose remarkable fringed lip singled it out some years ago as a very promising subject for the operations of the hybridist, and the results are now gradually coming to hand.

Speaking of novelties reminds me that these were rather below the average in point of numbers, which is perhaps partly due to the fact that it is a little too early for many of the hybrid Lælio-cattleyas, of which so many are now reaching the flowering stage. One other very remarkable one, however, was sent by Messrs. Charlesworth & Co., which gained an Award of Merit. This was Lælio-cattleya × Ivernia, derived from L.-c. × callistoglossa and Lælia tenebrosa, which, fine as it is, gave evidence that the plant is far from fully developed, and it will be surprising if it does not gain the higher award on some subsequent occasion. It is said that about sixty plants were entered for Certificates from the Orchid Committee, but of these not a fourth were successful, for the list of awards contains three First-class Certificates, eight Awards of Merit, and one Botanical Certificate. This, however, affords no very exact criterion of the meritorious exhibits shown, as a good many for various reasons were not "entered" for Certificates, and I believe that the best Orchid in the show would be ignored under such circumstances. I noticed also that two plants gained Cultural Commendations—a kind of award which I should like to see more appreciated, for such awards carry a personal distinction to the grower, especially when the subject is a difficult one to manage. That they are not very highly appreciated will, I think, be admitted, and in any case I note that in the Manchester Orchid Society's Rules they count as equal to a Botanical Certificate in value, gaining one point, while an Award of Merit counts as two points, and a First-class Certificate, as no less than four—an arrangement which scarcely does justice to the cultural side of the question.

I see that the Manchester Society are making an alteration in their rules with respect to First-class Certificates. A resolution was adopted at the annual meeting the other day—"That one First-class Certificate only be awarded to any one distinct plant, and that, if desired by other owners of plants which have been previously certificated, a warrant shall be given under the direction of the Committee, stating that the plant or plants exhibited by them are similar to those which have been awarded a First-class Certificate by the Committee." The rule apparently does not apply to other awards, and I shall be rather curious to see how it works, and whether this "warrant" will also carry four points in the competition.

Last month I alluded to the vexed question of manurial aids to Orchids, and intimated that I should look for Mr. Burberry's reply as to the "something" that was to be added to tap-water to make it of the nature of soft or pond water before using. And now we have it (p. 150). Mr. Burberry says:—"It is largely a matter of opinion. When forced to use such water direct I have been in the habit of adding either a pinch of guano or a small bag of soot thereto. It must, however, be done very sparingly or not done at all. I prefer an open tank outside, which should be filled and left exposed for a day or two before using, stirring in a few spades-full of garden soil and decayed leaf soil, and allowing it to settle, which brings it more to the nature of pond water, and is safer than either soot or guano."

Now I begin to see where we are. Mr. Burberry has often cautioned us against the use of manure, in spite of what seemed clear evidence in its favour, and I think he once told us that if it seemed beneficial at first there was a woful falling away afterwards, and the last state of the plants was worse than the first or unmanured state. On the contrary Mr. Hamilton has told us:—"I have proved again and again that one handful of guano in a 150-gallon tank improves Dendrobes, Cattleyas, Lælias, Cœlogynes and—who would think it?—Odontoglossums even."—(*Orch. Rev.*, v., p. 359). Mr. Cookson, too, has for years been using small quantities of ammonium phosphate and potassium nitrate to the water used when the plants are growing or producing flower-spikes, and has no doubt of its beneficial results (*Orch. Rev.*, vii., p. 144). And now Mr. Orpet says that Mr. Cookson's formula has worked wonders among his seedlings. But the point I was coming to is Mr. Burberry's advice, which amounts pretty much to this. Use soft or pond water for your Orchids; it contains the manurial elements they require. If you can only get tap water, which does'nt, so much the worse for you, but you can add a pinch of guano or soot to make up the deficiency, or you may stir in a few spades full of garden soil and leaf mould, which is safer still.

And now I think *I* may venture on a little advice. Find out what "manurial aid" your Orchids require—"Feeding" is the term Mr. Cookson uses, and I think it is a better term—also find out the proper time to apply it, and then see that they get it. If your water contains all they want ready to hand don't put more in; it is unnecessary and might do mischief, besides being wasteful. If your water does not contain what they want, find out what it is, if you can, and put it in. It is no good starving your plants almost to death, and then complaining that they are "bad doers." On the other hand, don't give them a lot of things they don't want, not yet what they do want in too strong doses or too great quantities. Give your plants what they require—even if you have to call it manure—and they will thrive; neglect it, and you will soon see the difference.

ARGUS.

THE HISTORY OF ORCHID CULTIVATION

(*Continued from page* 136).

THE *Botanical Register* for 1836 contains figures of thirty-one Orchids, of which at least eighteen were novelties, and a few others new to cultivation. It may be remarked here that both the twenty-first and twenty-second volumes of this work are dated 1836 on the title-page, but the dates on the plates show that the former covers the period from March, 1835, to January, 1836, and the latter from February, 1836, to the end of the year, and it is to the latter volume that the following notes refer. All the later volumes coincide with the years, and it was previously overlooked that this does not apply to the earlier volumes. Several of these novelties were very striking ones, and include Angræcum caudatum (t. 1844), introduced from Sierra Leone by Messrs. Loddiges, and flowered in their Nursery in August, 1835, being cultivated on a piece of wood; Trichopilia tortilis (t. 1863), introduced from Mexico in the previous year, and flowered in the collection of George Barker, Esq., at Springfield, Birmingham; Zygopetalum cochleare (t. 1857), a native of Trinidad, which flowered with Mr. Knight in August, 1835; Oncidium Russellianum (t. 1830)—now known as Miltonia—which flowered in the Duke of Bedford's collection at Woburn, having been brought from Brazil by the Hon. Capt. Roos; Aspasia variegata (t. 1907), a South American species received from Mr. Knight in February, 1836, and subsequently from Mr. Bateman; Myanthus deltoideus (t. 1896), a Demerara species, which flowered in the collection of Richard Harrison, Esq., in October, 1835; Bifrenaria aurantiaca (t. 1875), also from Demerara, and flowered in the Duke of Devonshire's collection at Chiswick at the same time as the preceding; Epidendrum armeniacum (t. 1867) a Brazilian species received from Messrs. Rollisson, of Tooting, in June, 1835; E.

clavatum (t. 1870), said to have been "introduced along with Trichopilia tortilis and Mormodes atropurpurea" by Mr. John Henchman, for Messrs. Low & Co., of Clapton, and flowered with Lord Grey of Groby; E. Skinneri (t. 1881), which flowered in the collection of James Bateman, Esq., of Knypersley, in January, 1836, having been sent to him "in the summer of 1835, from the neighbourhood of Guatemala, by his most excellent friend, G. U. Skinner, Esq., to whose enthusiasm in the cause of science he is indebted for many new and interesting plants"; Ionopsis tenera (t. 1904), brought from Havannah by Captain Sutton, and flowered with Sir Charles Lemon at Carclew in May, 1836; and several others, among them being Mormodes atropurpurea (t. 1861), imported from the Spanish Main in 1834, and flowered in the collection of John Willmore, Esq., of Oldford, near Birmingham. The latter was a new genus, and its name was derived from *mormo*, a goblin, in allusion to the strange shape of the flowers.

Nor must we forget the handsome Oncidium Lanceanum (t. 1887), just previously described and figured in the *Transactions of the Horticultural Society* (ser. 2, ii., p. 100, t. 7). It was one of a considerable number of Orchids brought to London in 1834 by Mr. J. H. Lance, on his return from Surinam—where he had resided for several years—and presented to the Society. Lindley remarks that when it was ascertained that among Mr. Lance's plants there existed an Oncidium with violet-coloured, sweet-scented flowers, great interest was excited, and no means were spared to ensure its successful cultivation. Many plants were soon distributed, one of which blossomed in the hothouse of the Messrs. Loddiges, and another shortly after in that of the Society. A still finer one flowered with Messrs. Rollisson, of Tooting, from which the *Botanical Register* figure was made. The plant was dedicated to Mr. Lance, to whom the Society's Large Silver Medal was awarded, in recognition of "the importance of Mr. Lance's endeavours to introduce new plants to this country."

Eleven Orchids were also figured in the *Botanical Magazine* for 1836, of which three were new. First may be mentioned the handsome Epidendrum macrochilum (t. 3534), introduced from Mexico by Charles Horsfall, Esq., in whose fine collection at Everton it flowered in June, 1836. The drawing was communicated by Mrs. Horsfall. The plant afterwards proved identical with E. atropurpureum, Willd., described from dried specimens. Peristeria pendula (t. 3479) "was imported with many other rarities from Demerara, by John Allcard, Esq., in whose stove at Stratford Green it flowered in January of the present year, and who kindly sent us the drawing here engraved, from the pencil of V. Bartholomew, Esq., Associate of Painters in Water Colours." Bletia patula (t. 3518) is a native of Hayti, which was received at the Botanic Garden, Edinburgh, from Dr. Fischer, of St. Petersburg, and flowered finely in the stove. Rodriguezia Barkeri (t. 3497),

is a native of Brazil, imported by George Barker, Esq., and communicated in full flower by Mr. Cameron, of the Birmingham Botanic Garden, in January, 1836. It is now known as Gomeza Barkeri. The remainder were previously known species, but among them we may mention Cyrtopodium punctatum (t. 3507), which was sent from Brazil by William Swainson, "many years ago," but never "showed any disposition to bloom" till the spring of 1835, when it was "superb."

Orchid culture was now growing by leaps and bounds, and we may introduce the memorable year 1837 with some graphic remarks by Mr. Bateman, from the introduction to his big book, the *Orchidaceæ of Mexico and Guatemala* :—"But the *annus mirabilis* of Orchis-importatum was 1837. In addition to the spoils brought by Mr. Gibson from the Nipalese Hills, and which reached Chatsworth in this year, Mr. Skinner poured into our stoves the richest treasures of the barrancas of Guatemala, Mr. Cumming sent a profusion of the choicest air-plants from the Philippine Islands, Mr. Schomburgk contributed some exquisite species from the interior of Guiana, and M. Deschamps, a Frenchman, arrived with his vessel from Vera Cruz, entirely laden with Mexican Orchidaceæ. In the whole, not less, probably, than three hundred species were seen in England for the first time in this memorable year."

The result of all this activity would inevitably make itself felt in the course of a few months in the publications of the period, though perhaps not immediately, but the *Botanical Register* for 1837 contains figures of twenty-seven Orchids, of which fourteen were new, and a few others new to cultivation. The Brazilian Miltonia spectabilis (t. 1992), may be considered as one of the most remarkable. It flowered with Messrs. Loddiges, of Hackney, and subsequently with G. Barker, Esq., of Birmingham, the genus being dedicated by Lindley to Lord Fitzwilliam, "one of the oldest and steadiest friends of natural science in this country . . . now, for the first time, fixed among the imperishable records of Botany." Trigonidium obtusum (t. 1923) was another new genus, received from Mr. Bateman, in August, 1836, who remarked :—"This singular plant I owe to the exertions of Mr. Colley, in Demerara," received in the summer of 1834. Chysis aurea (t. 1937), a third new genus, was received from Messrs. Low & Co., of Clapton, in June, 1836, having been collected by Henchmann in Venezuela. Trichocentrum fuscum (t. 1951), imported from Mexico by Mr. Knight, who flowered it in July, 1836, was also a new genus.

There is also a new Cypripedium to record. C. purpuratum (t. 1991) was introduced by Mr. Knight, of Chelsea, and flowered with Messrs. Loddiges, in November, 1836. It was said to be a native of the Malay Archipelago, but we now know that this must have been a mistake for Hongkong. Burlingtonia candida (t. 1927) and Oncidium lunatum (t. 1929)

were both introduced from Demerara, the former flowering with Mr. Bateman, and the latter with Messrs. Loddiges. Bulbophyllum barbigerum (t. 1942) and B. saltatorium (t. 1970), were introduced from Sierra Leone, by Messrs. Loddiges, the former being still one of the most remarkable species in cultivation, and the latter a sort of miniature edition of it. B. cocoinum (t. 1964) was of the same origin, and Mr. Bateman states that it filled the house at Hackney with the scent of a cocoa-nut. Peristeria cerina (t. 1953) was imported from the "Spanish Main," by Mr. Knight, of the King's Road, where it flowered in June, 1836. Oncidium deltoideum (t. 2006) flowered with W. J. Myers, Esq., of Aigburth, having been sent from Lima, Peru, by John Maclean, Esq., who is said to have probably received it from Matthews, its first discoverer. Cirrhœa obtusata (t. 2005), and Spiranthes bracteosa (t. 1934), both flowered with Messrs. Loddiges.

Among the more remarkable species new to cultivation we note Magaclinium maximum (t. 1959) and the Mauritian Cynorchis fastigiata (t. 1998), both from Messrs. Loddiges, and the Cingalese Anœctochilus setaceus (t. 2010) from the Duke of Northumberland, at Syon House.

One remarkable plant figured (t. 1947 A), deserves a paragraph all to itself. In the text (sub. t. "1951*") it is called "one of the greatest curiosities that our gardens ever produced. . . . A plant of Monachanthus cristatus changing into a Monachanthus . . . and combining in its own proper person no fewer than three supposed genera, Myanthus, Monachanthus, and Catasetum." It flowered in the collection of the Duke of Devonshire, in November, 1836, and was in reality a plant of Catasetum cristatum showing eight female flowers at the top of the inflorescence, with seven males underneath, and one flower in a partially intermediate condition. Lindley had observed a somewhat similar phenomenon in the Horticultural Society's Garden in 1826, and noted it, though afterwards he tells us that he doubted his own words, and believed that he had made some mistake. The phenomenon is now well understood, and the history of the question has been fully recorded (Rolfe in *Journ. Linn. Soc.*, xxvii., pp. 206-225, t. 8).

Twenty Orchids were figured in the *Botanical Magazine* for 1837, three of which were new, but the only remarkable one was Maxillaria Steelii (t. 3773), which afterwards became the type of the genus Scuticaria. Sir William Hosker remarked:—"This highly interesting Orchideous plant was obligingly communicated from the stove of John Moss, Esq., Otterspool, near Liverpool, together with a drawing by Miss Moss, from which the accompanying figure was made. It was introduced in July of last year (1836) by Matthew Steele, Esq., of Demerara."

It is interesting to note that this volume of the *Botanical Magazine* was dedicated to James Batemen, Esq., of Knypersley Hall, Cheshire, author

of the magnificent *Orchidaceæ of Mexico and Guatemala*, a work of which it is hard to say whether the beauty of the subjects represented, the execution of the figures, or the taste and judgment displayed in the typographical department is most to be admired."

(To be continued.)

ODONTOGLOSSUM LEAVES DECAYING AT THE TIPS.

MANY will be sorry to see from the ORCHID REVIEW for February (p. 39) that such a shrewd and intelligent Orchid grower as Mr. De B. Crawshay has got the above complaint, not "disease."

When we go out on a cold morning the parts where we find the cold most severe is at our extremities—toes and fingers. I think it is the same with the Odontos; so many try to grow them in far too low a temperature, and with the occasional very low minimum reached, sometimes even as low as 40°, the tips of the leaves become injured.

What gardener has not experienced the same complaint with other plants? Dracænas even, and often Clivias, when near the roof glass, and the temperature falls lower than it should do, have the tips of the leaves killed. Some think, because the various plants are very accommodating, they will stand a few hours low temperature, say, in the mornings, but something is sure to show itself in time. I might name other plants with thinner leaves than the above that are affected through low temperatures, but enough has been said to show my meaning.

I may be wrong, but I have felt for years that the temperatures advised by Calendar writers are far too low. Tell me of a good Odontoglossum grower, and I will go and see his plants, and find his houses far warmer than where Odontos are miserable looking objects, and upon asking his minimum in the mornings he will say above 50° on the coldest mornings. Who ever has seen a flower spike in bloom looking really happy at 50° to 55°? But try 60° and see how beautiful they are. I would say, let those who have the above complaint try more heat and air at the bottom ventilators, with plenty of atmospheric moisture, and see the difference in growth. It is not a matter of growing cheaply, coal saving, as Odontos don't *grow* in a cool treatment, but the reverse, namely, stand still.

Then the potting material is often blamed. Why, the finest Odontoglossum crispum I ever met with were potted in pure sphagnum, by Mr. Shuttleworth, when he was partner to Charlesworth & Co., but their heat or temperature was then, as now, decidedly warmer than is mostly seen or heard of in Calendars.

JAS. HAMILTON.

Manderston,
Duns, N.B.

ONCIDIUM PHALÆNOPSIS.

THE annexed figure of the beautiful Oncidium Phalænopsis is reproduced from a photograph kindly sent by Frau Ida Brandt, Reissbach, Zurich (gr· Mr. Schlecht), and gives an excellent idea of the species—if such it be. It is one of a group of forms allied to O. olivaceum—better known under its later name of O. cucullatum—and was described by Reichenbach in 1869 (*Gard. Chron.*, 1869, p. 416), from materials collected in Ecuador by Gustav Wallis, and sent to M. J. Linden, of Brussels. It has generally larger flowers than its allies, and the sepals and petals are more or less heavily barred with purple on a very light ground, while the lip is white, or slightly flushed with rose, with numerous purple spots round the crest.

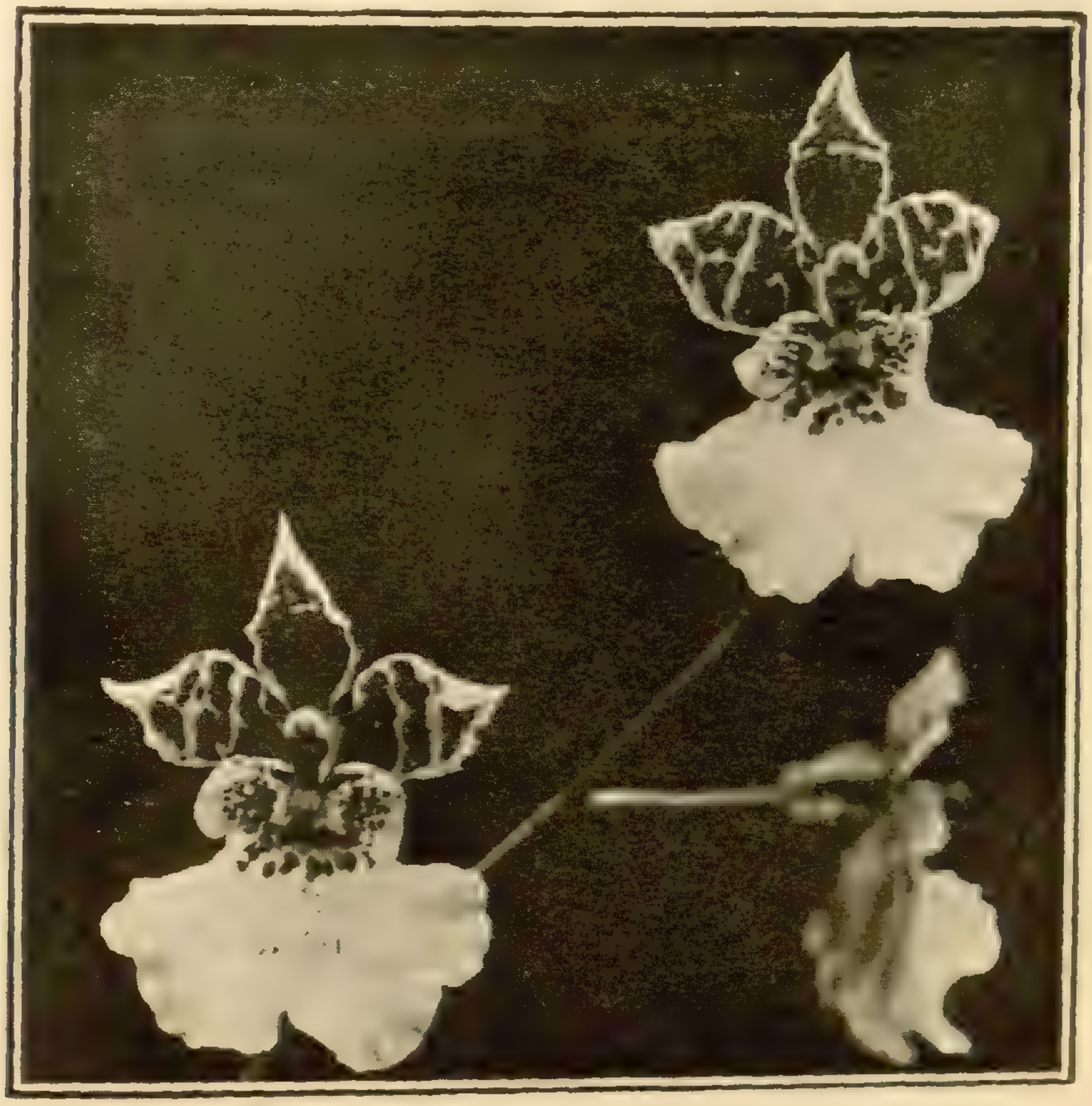

Fig. 26. ONCIDIUM PHALÆNOPSIS.

Its characters are well shown in the illustration. Very little seems to have been recorded about its exact habitat, though it is known to be a high alpine form, coming from an altitude of between 8,000 and 10,000 feet elevation, and consequently it requires to be grown in the coolest house. Even then it is by no means an easy plant to cultivate, for it grows naturally under conditions which can only be approximately imitated in our Orchid houses. It is certainly a very beautiful plant, and one of the most attractive in the genus when seen in anything like its native vigour, which is unfortunately too seldom.

DENDROBIUMS FROM TYNTESFIELD.

A BEAUTIFUL series of hybrid Dendrobiums is sent from the collection of F. Hardy, Esq., Tyntesfield, Ashton-on-Mersey, all of them being good, and two or three decidedly novel in colour. Mr. Stafford remarks that the show has been very good, though the majority are now over, and that of D. × Cybele a great many have flowered for the first time, the so-called "Lang Tang var." of D. nobile having produced some good things, both in colour and shape.

D. × CYBELE.—Of this charming hybrid between D. Findlayanum and D. nobile, six very beautiful forms are sent. D. × C. giganteum is a very large form, having very little yellow round the maroon disc. D. × C. nobilius is large and very richly coloured, comparable in this respect with D. nobile nobilius, which is one of its parents. D. × C. ignescens is a remarkable novelty, excellent in shape, and the colour nearer rose than purple, or what might be described as "crushed strawberry," being of that peculiar shade seen in the rare D. nobile roseum. D. × C. erubescens has the upper part of all the segments of a delicate rose-blush, like a very light shade of the preceding form, and without any approach to purple. One other is so similar to the preceding as hardly to require a separate name, and the remaining one is fairly typical.

D. × NIOBE.—A seedling from D. tortile roseum × D. nobile is a fine form of D. × Niobe, and measures four inches in expanse. It shows much of the undulate character of the former, modified by the influence of D. nobile, particularly in the lip.

D. × MELANODISCUS.—The variability of the hybrid between D. × Ainsworthii and D. Findlayanum is notorious, at least nine distinct forms having received separate names. Two good forms are now sent, one of which has the maroon disc very small, and very little developed in front of the pale area at the base, the other being fairly typical.

D. × BURBERRYANUM.—A seedling from D. × Dominyanum ♀ and D. Findlayanum ♂, is a charming form of D. × Burberryanum, and is excellent both in shape and colour, the segments being broad, and of a beautiful rose-purple shade, and the lip having a sharply defined maroon disc, surrounded by a white area, and tipped with rose-purple.

D. × STAFFORDI is a charming hybrid between D. × Cassiope ♀ and D. Bensonæ ♂, nearly white in colour, with a small transverse maroon band on the disc, in front of which occur a number of small nearly confluent spots, forming a second paler band.

D. × LUTWYCHEANUM VAR. CLIO is derived from D. × Ainsworthii and D. Wardianum, and is a charming form, fairly intermediate between its parents.

CALENDAR OF OPERATIONS FOR JUNE.

By H. A. BURBERRY, Orchid Specialist, King's Heath, Birmingham.

FOR the summer temperatures and general management of the various departments see last month's Calendar.

Vanda teres and V. Hookeriana are now making a fine show. These lovely species prefer a hot, sunny part of the warmest house, and should be syringed several times daily with tepid soft water. They are best grown when fixed on a moss-clad, teak wood raft, or cylinder, of good length, allowing for the tall growth, which is very rapid and vigorous under good cultivation. When they have become too leggy, as they do in course of time, they should be lowered by cutting the receptacles in half, and bringing the top part down to the base. Rarely do these species flower successfully unless treated to the full sunshine and syringed liberally, and even then some plants are more shy than others.

Vanda suavis, V. tricolor, and V. insignis, on the other hand, prefer the ordinary shady conditions which most other Orchids enjoy. In fact I may say the majority of the species of this genus in cultivation enjoy an abundance of shade and moisture, especially during the summer, which is their growing season, and that they are not over partial to great heat, but will grow even better in the Cattleya house than elsewhere. The large-growing kinds with their handsome foliage look well on the stages, whilst other smaller kinds, such as V. cœrulea, V. cœrulescens, V. Denisoniana, V. Kimballiana, and V. Roxburghii, are better if suspended in baskets or cylinders. They should be fixed in their receptacles firmly, with crocks and charcoal, and surfaced over with fresh sphagnum moss, which should have enough water to cause it to grow freely during the summer.

Dendrobiums of the thyrsiflorum and densiflorum section will now be starting to grow freely, and should be given the warmest house until completed, taking them out again to cooler quarters immediately they have finished, gradually hardening them so as to withstand the greenhouse temperature for the winter. These sturdy and grand old species soon become badly spotted, and degenerate never so quickly as when left to rest in heat and moisture.

It will now be the cultivator's chief pleasure, having most of the re-potting done and his plants in their proper growing quarters, to provide for them the best possible growing conditions, and note their progress, for they wil now advance with rapid strides. It will soon be apparent now how the plant which required re-potting, and was done properly and at the right time, will come away and pass that one which wanted it as badly but did not get it, and the difference will be more marked as the season advances. I am no advocate for potting for the sake of potting when it is not

really necessary, still if any doubt existed in my mind as to the necessity of potting or otherwise I should certainly elect to do it. One must never be afraid to re-pot when it seems desirable. It is absolutely necessary for continued success with any plant. Better do it a little late in the season than pass a deserving plant over altogether. As I have said before, a plant, after a certain point of excellence, will gradually recede, and requires a lot of regenerating if neglected. The full benefits of re-potting are frequently not apparent the first year, though with some genera, such as Dendrobiums, Odontoglossums, and Oncidiums, the beneficial result is apparent in the first year's growth, by increased vigour and healthier appearance. Cattleyas, and Lælias, and most other genera generally make more marked progress the second year, after which it must be left to the grower's decision whether the pot is large enough and the compost porous enough to warrant it safe letting them go for the third year. A grower can generally tell the proper thing to do by a glance at the plant and the surface compost. It may be less easy for an amateur, but he soon learns by experience and practice.

I prefer to have the bulk of the potting finished by now. Still there are a good many things which it has been impossible to get at before, on account of blooming, but these should be attended to at once. They include Cattleyas Mossiæ and Mendelii, Lælia purpurata, Miltonia vexillaria, certain Cymbidiums, and Sobralias, and others which are now passing out of bloom.

LEAF SOIL FOR POTTING MATERIAL.—Leaf soil, or rather, *half decayed leaves*, such as clean beech or oak collected last autumn, are now used to a considerable extent by some growers, either purely by themselves surfaced with a little sphagnum, or mixed in with other materials. Personally I think it a very good thing. The results of my trials have so far quite satisfied me. Still I must advise growers to be careful and experiment with it on a few only before using it largely. I see no reason why almost all our Orchids should not grow and do well in it, if properly potted and carefully watered afterwards, although there is still a doubt in my mind whether it will ultimately prove so good as our well-tried and proven sphagnum moss and peat, when well broken and mixed up together, with a little finely smashed crocks and charcoal. Yet I say, give it a fair trial by all means, for there is a long difference between the price of leaf soil and best Orchid peat. True, the former, if laid in lightly, is extremely soft and porous, and the roots should enter it freely, at the least for one season, when it could easily be removed. The leaves should be in a half rotten, or what I may term in a flaky condition, which, if not too wet, will easily rub through a half inch or three quarter inch sieve, when it is ready for use, and is readily worked in between the roots, afterwards surfacing lightly with a layer of sphagnum moss to keep the plant firm. With this

matter of leaf soil versus peat and moss I again urge carefulness. If one cannot grow Orchids successfully in the latter it is scarcely possible for him to do so in the former, or at least he must not expect it to work wonders or to be the only means necessary for success. The compost employed is not the only agent, but atmospheric conditions are possibly the most powerful factor in Orchid growing. Still the compost has a great influence for better or worse, and we may yet find the balance in favour of the leaf soil or it may prove the reverse. Certainly I have seen grand plants so cultivated—some of them were in the fine collection at Coundon Court. Time alone can prove.

I well remember cocoa-nut fibre refuse being strongly advocated as a substitute for peat in Orchid growing, and some growers went so far as to pot up their entire collections in it, before its efficacy was fully proved—an act which they afterwards regretted. Then, later, came jadoo fibre, which was thought by some to be the correct thing, but its utter failure to oust peat was even more signal. Yet I see no reason why good Orchids could not be grown with either of the above, under the charge of competent growers. I have even had Orchids come to me potted in nothing but pure yellow loam, and have kept then so in order to test them. Knowing the requirements of the plants they have of course been watered so as to suit this strange compost, with the result that they have done fairly well; one, Lycaste aromatica, I may even say has done very well, and is now producing great numbers of flower buds. And yet I do not recommend loam for this species. After all, the atmospheric conditions must be the first consideration, and the materials for the roots, with due regard paid to watering, taking a secondary but still a most importance place. I used to think there was nothing to equal yellow fibrous loam for Cymbidiums, Phaiuses, Sobralias, and such like species, until I grew them equally well in all peat (not what we call fibrous Orchid peat) and after all, what is the difference? One is yellow and the other black. Only? ED.]

No matter how well a collection of Orchids may be grown generally, it always happens that there are a number—more or less—that have, through some cause or another, become small and weakly, and these, if staged with others, often give the whole a rather bad appearance, or tend to do so, while at the same time their chance of rapid recovery of strength is not great, because so far away from the light. It is a good plan to collect such by themselves, giving them a position where their well-being can be especially looked after. I find a shelf, if one exist, a capital place for such weakly specimens, so that they may be freely syringed, which together with access to light and air, brings them back to vigour the more quickly. Swinging shelves over paths, and wherever they can be placed without unduly robbing other plants of light, are exceptionally handy, not only for

weakly plants, but also for others which may happen to be "miffy" in growth, and not getting on well on the stages. A trial with such plants on the shelf often ends successfully—even more so than suspending them.

THE CYPRIPEDILUM GROUP.

A CORRESPONDENT asks us to point out the characters and differences of the genera belong to the Cypripedilum group, as he often sees the names mentioned without properly understanding them, and the whole of his sixty varieties have been purchased under the name Cypripedium. Possibly others may have experienced a similar difficulty.

The genus Cypripedium was originally based upon our European species, C. Calceolus, but others were soon added, and when the tropical species began to be discovered they were also incorporated in the genus, apparently under the belief that they were identical in structure. In 1842, however, Lindley wrote:—"There is something in the habit of the Indian Lady's Slippers so peculiar that it was for a long time thought that they would be found to possess characters to separate them from their associates," though he failed to discover what that something was. In 1846 the same author described a very curious Tropical American plant, under the name of Uropedium Lindeni, which differed from Cypripedium in having the lip prolonged into a narrow tail, like the petals—hence the name. In 1854 Reichenbach pointed out that this plant had a three-celled ovary, like the Apostasieæ, as had also all the Tropical American species of Cypripedium, which latter he separated under the name of Selenipedium. It was subsequently discovered that Uropedium Lindeni was only a peloriate or abnormal state of Selenipedium caudatum, and the former name was abandoned. In 1882 Pfitzer removed the species of Selenipedium having coriaceous leaves, and united them with the Old World species of Cypripedium of similar habit, under the name of Paphiopedilum, the characters relied upon being the conduplicate leaves and deciduous perianth. In 1896 it was shown that the last-named group contained two very distinct genera, and the Tropical American species were separated under the name of Phragmipedium (Rolfe in *Orch. Rev.*, iv., p. 331), and a detailed account of the different genera was given.

The question has been somewhat complicated by a change in spelling respecting which a few words seem necessary. The original name was spelt by Linnæus, Cypripedium, but its derivation was explained as being in allusion to the slipper-shaped lip—literally "Venus's Slipper." Ascherson, accordingly, in 1866, amended the spelling to Cypripedilum, on the ground that Cypripedium meant "Venus's Foot," and Pfitzer afterwards brought the other genera into line. Much controversy has arisen respecting this

point, and some advocates of the original spelling have assumed that Linnæus intended to commemorate the "foot" of Venus, but this is disproved by the remarks of Linnæus himself, which show that the popular appellation of "Slipper Orchids" embodies the same idea as suggested the original name. An attempt was made by advocates of retaining Cypripedium to secure uniformity by dropping the "l" in Paphiopedilum, but objection was taken to this course on the ground that it is neither the original spelling nor yet correct. But the idea of having two ways of spelling the same termination is repugnant to common sense, and as the Greek *pedilon* is the correct equivalent of the word *slipper*, we adopt the course of securing both correctness and uniformity by adopting the latinized termination "pedilum" in each case. Even advocates of adopting the original spelling of words will allow the correction of an obvious blunder.

We may now point out briefly the charac ers of the four genera of Cypripedileæ, taking them in the order of their development and their affinity with the more ancestral tribe Apostasieæ, which is characterized by its three-celled ovary and relatively simple structure.

SELENIPEDILUM is a genus of three species found in Guiana, Brazil, and Panama. They are tall, reed-like plants, ranging from four up to fifteen feet high, with plicate, lanceolate leaves; terminal racemes of small flowers, having valvate sepals and a persistent perianth; and the ovary three-celled, with subglobose seeds, and a smooth, crustaceous testa, like those of Vanilla. Curiously enough two of the species have fragrant fruits, which are used for flavouring purposes, like those of Vanilla, the Panama species being known to the natives as *Vainilla chica*, or Little Vanilla. None of the species are in cultivation. The name is taken from the Greek *selenis*, a little crescent, in allusion to the character of the lip.

PHRAGMIPEDILUM agrees with the preceding in its three-celled ovary, like the Apostasieæ, and valvate sepals, but differs in being stemless, in having conduplicate, coriaceous, strap-shaped leaves; much larger flowers, with an articulated deciduous perianth; and fusiform seeds, with a reticulated testa. The genus ranges along the Andes from Guatemala to Peru, with outlying species in Guiana and Brazil, and contains ten known species, most of them being well known in gardens. The name is given in allusion to the divisions of the ovary, from the Greek *phragmos*, a fence. In case it should be wondered why Selenipedilum was not retained for the present genus, it may be added that Reichenbach specially applied his name to the preceding genus, and described the remarkable Vanilla-like seeds, while the species now referred to Phragmipedilum were placed in a second section, with the remark that the seeds, which were unknown, might prove to be similar; a suggestion which has proved incorrect. Uropedium is in reality the oldest name, but cannot be adopted, because it was based on an abnor-

mal condition of one of the species, and the name, indicating tailed-slipper, is absolutely absurd and misleading when applied to anything else.

CYPRIPEDILUM differs from both the preceding in having a one-celled ovary, and includes all the remaining species having plicate leaves. The sepals are valvate, as in both the preceding, and the perianth is persistent as in Selenipedilum, while the seeds are fusiform with a reticulated testa, as in Phragmipedilum. The species are deciduous, and at present number about thirty. The genus is widely diffused through northern Europe, temperate Asia, and North America, as far as the mountains of South Mexico.

PAPHIOPEDILUM agrees with the last in having a one-celled ovary, but differs from all the others in having imbricate sepals. This then is that mysterious "something" which was to separate the Indian Lady's Slippers from their associates, but Lindley failed to discover; and it is a very marked character, as anyone may see on cutting a bud across, or even on examing it before expansion. However relatively large the dorsal sepal may be, it is always packed up within the lateral united pair in the bud, which is thus laterally compressed. It agrees with Phragmipedilum in habit and vegetative characters, and in the deciduous perianth and fusiform seeds, but differs in the one-celled ovary and imbricate sepals. The genus ranges from the Himalayas and South India, through the Malayan Archipelago to New Guinea, and through the Philippines to Hongkong; the known species numbering forty-two. As to the derivation of the name we need only add that *Paphios* is another name for the goddess Venus.

Thus the tribe Cypripedileæ, or Slipper Orchids, is seen to consist of four thoroughly distinct and sharply-characterized genera, three of which are well known in cultivation; and of these one consists of hardy or half-hardy deciduous species, while the others are tropical or subtropical evergreen plants. The names are not yet generally adopted in gardens, but we see no reason why they should not be, and believe it is only a question of time. There are many fully recognized genera which are neither so distinct nor so well characterized.

VANILLA PLANIFOLIA.

IN the Economic house at the Glasgow Botanic Gardens there is at present a very interesting plant of this West Indian Vanilla, just ripening its fruits, which number over 400. A full grown French Bean will give a fair idea of the shape and size of its pod. It flowered in June of last year, so that it takes a good time to ripen its fruit in this part of the country. Very shortly the house in which the plant is growing, and the adjoining ones as well, will be filled with the pleasant odour of the Vanilla. This is the Vanilla which is used for commercial purposes.—A. B. in *Journ. Hort.*, 1901, xlii, p. 195.

CHYSIS BRACTESCENS.

THIS beautiful species was originally introduced from Mexico by George Barker, Esq., of Birmingham, in whose collection it flowered for the first time in 1840, and was described in the *Botanical Register* (1840, Misc., p. 61) and shortly afterwards figured (1841, t. 23). Its habitat seems to be in the province of Vera Cruz, being frequently imported from the neighbourhood of Cordova, sometimes together with C. aurea; it also occurs at Tabasco. It is an easily grown and handsome species, its large, ivory white flowers, being very distinct and effective. It succeeds well in pots or baskets, in the usual compost of fibrous peat and sphagnum moss, with a few crocks,

FIG. 27. CHYSIS BRACTESCENS.

and during the growing season likes a position in the Cattleya house, with liberal supplies of water, being afterwards removed to a cooler house, and sparingly watered, for the resting season. Our illustration is reproduced from a photograph taken by E. P. Collett, Esq., Charlton-cum-Hardy, Manchester, on an isochromatic plate, against a background of black velvet. The two beautiful hybrid Chysis known in gardens both owe their origin in part to the present species, and both were raised by Messrs. James Veitch & Sons. C. × Chelsoni (bractescens × lævis) appeared in 1874, and C. × Sedeni (Limminghei × bractescens) in 1880.

ORCHIDS ABROAD AND AT HOME.

THE question whether Orchids improve under cultivation has been discussed several times, and Mr. Robert Cross, who travelled in the Andes in search of Cinchonas some years ago, and wrote some interesting "Notes on the plants of Peru," made the following remarks on the subject:—

"I have been told that when properly cultivated in England Orchids produce finer flowers than in their native country, a statement with which I cannot agree. On some of the more elevated heights above Limon, where the trees are thinly distributed and of somewhat stunted form—presenting an appearance very similar to that of old orchards in England—I have seen Oncidiums in so great abundance, and their flowers in such profusion, that, when viewed at a distance in the morning sunlight, it seemed as if the scattered woodlands were on fire. On examination I found the roots of each plant firmly adhering to the bark of the tree on which it was growing, and some of the roots I traced along the branches 8 to 10 feet distant from the parent plant."—*Gard. Chron.*, 1862, p. 430.

LAW NOTES.

BAGG v. THE EARL OF AYLESFORD.

THIS was an action brought by Archibald Bagg, a gardener, against the Earl of Aylesford, at the Coventry Country Court, to recover the sum of £3 6s. 8d., balance of a month's wages. There was a counterclaim for £16 17s., being damages said to have been sustained by the defendant through the negligence of the plaintiff, the latter having represented himself to be competent to undertake the management of the Orchid-houses of the defendant, whereas, it was alleged, he was not so competent, and that by his negligence and improper management he had caused the loss of certain Orchids and other plants. The defendant did not appear, but Mr. Masser appeared on his behalf, and Lady Aylesford was present.

The plaintiff, in reply to Mr. Maddocks, who appeared on his behalf, stated that he was engaged as gardener, his duties being to take charge of the Orchid-houses, and to assist in stoking, and to take charge of the violets, his wages being £1 a week. He was there about four months, and then gave notice. There was a head gardener. Lady Aylesford had told him that he did not know much about Orchids. He had been with the Right Hon. Joseph Chamberlain and with Sir Trevor Lawrence, and although he could satisfy those gentlemen he could not satisfy Lady Aylesford. When he had worked out his month's service, he asked for payment of his wages, £3 6s. 8d., and it was refused. When he was engaged, there was no arrangement made that he was to pay for plants that

died. Lord Aylesford wrote to his solicitor alleging culpable negligence on plaintiff's part, and that an Orchid specialist had recommended that the entire charge of the Orchids should be taken out of his hands. Witness was not was paid the wages of an Orchid specialist. He did not think £1 per week were the wages of an Orchid specialist. He believed he had had as much experience in Orchids as the gardener at Lord Aylesford's. He had tried to please her ladyship, but had failed. Orchids were the same as other plants—they sometimes died.

Lady Aylesford, on being called, alleged that plaintiff left the ventilators open on a frosty night, and it was chiefly owing to his negligence that the Orchids died.

A sub-agent in the employ of Lord Aylesford admitted that his lordship had had two head gardeners in six months.

Mr. H. A. Burberry, of King's Heath, gave expert evidence, and said that when he examined the Orchids in March they were in poor condition, but that might have been due to negligence prior to November, when plaintiff was first engaged.

His Honour found for the plaintiff for the amount claimed, and the counterclaim was dismissed with costs.

HYBRID EPIDENDRUMS.

We recently had in these pages a very interesting article by Mr. E. O. Orpet (p. 103) in which some hybrid Epidendrums were mentioned. Sketches (single flowers) of four interesting forms raised by Mr. Orpet are given by Mr. Oakes Ames in a recent issue of *American Gardening* (1901, p. 331, fig. 71), together with E. radicans for comparison. Two forms are derived from E. × O'Brienianum crossed with E. elongatum, and are said not to be intermediate, but in a general way to approach E. radicans, which suggests that they may be only reversionary seedling varieties of E. radicans. There is no note of the colour, but so far as shape is concerned one seems nearest to E. elongatum in shape, though the other does seem near to E. radicans Another is said to be from E. cinnabarinum × radicans, and seems to be a true hybrid, though there are spots on the sepals and petals of a deeper shade than the general colour which are difficult to account for. The lip is lighter orange-yellow than in E. radicans, with the divisions more laciniated. Another is said to be from Sophronitis violacea × E. × O'Brienianum, and is richer in colour than the usual forms of the latter, though whether this comes from the Sophronitis is hard to say, as the general tendency of all the parts is toward the Epidendrum parent. This remark however might be made respecting the other known Epiphronitis, and yet the Sophronitis was the seed parent, as seems to have been the case with the present one, so that

any doubt in the case seems to lay in the possibility of an accidentally misplaced label, or that dipping process so graphically described by Mr. Orpet.

Mr. Ames adds:—"A satisfactory study of such hybrids, it seems to me, can only be made by means of thorough microscopic examinations. To maintain that a dwarf habit and so forth indicate hybrid origin seems futile while the plants are yet young. For the identification of ordinary hybrids the flower and a good description of the foliage seem enough, but where the particular group of Epidendrum under consideration is concerned the foliage and flowers should be carefully examined, together with the same parts of the identical parents with which the cross was originally made." We should like an opportunity of examining a flower of each of these forms.

ORCHID NOMENCLATURE

I HAVE been much interested in reading the various suggestions and remarks of your correspondents on this much-debated topic, but am afraid a Central Orchid Society, so far as it might venture to pose as an "Authority," would be doomed to failure from its inception, and that, for reasons which doubtless everyone feels, but carefully avoids stating. It is admitted that such a body is most desirable, but would all Orchid cultivators loyally support the "Authority" thus created when their own hybrids and varieties came up for judgment, for of course an "Authority" must either approve or condemn. Where is the grower—who perhaps, has come to regard himself as an "Authority," and, may be, even a "Specialist"—that would care to run the risk of his treasures being dethroned from their high estate and consigned to the oblivion of the past by an unsympathetic Central Authority? It is all very right and proper, of course, that the pretensious claims of *other people's* hybrids and varieties should be strictly dealt with, but I am inclined to think the shoe would pinch when it came to be tried on the other foot. If this inherent difficulty could be surmounted, a Central Society, with a Register, and particularly a set of reliable drawings, would be of untold value. The innumerable multitude of varieties in Cattleyas, Cypripediums, and Odontoglossums, named by all and sundry, is perfectly bewildering, but few of them deserving the distinction of even a single ×, let alone a name. And then, that fearful chaos of hybrids and cross-hybrids; what an endless source of dispute lies here! The authority who undertakes to create order in this overwhelming mass of material needs, not only every encouragement, but the loyal and hearty support of everyone interested in Orchid culture. The question is, would this be given? I doubt it.—SPECTATOR.

GONGORA SIEDELIANA.

A PLANT of this very interesting but imperfectly known species has just flowered with Mr. F. W. Moore, at Glasnevin. It was originally described by Reichenbach in 1852 (*Bot. Zeit.*, x., p. 637), from a plant which bloomed with Herr T. J. Siedel, in Germany, but its habitat seems not to have been known. A single flower was also represented in *Xenia Orchidacea* (i., pp. 51, 55, t. 20, fig. 5). A few years ago a plant was introduced from Mexico, by M. L. Kienast, which proved identical, and now we have the Glasnevin plant, which was purchased as Gongora sp. It belongs to the Acropera group, and is allied to Gongora galeata, Rchb. f.—perhaps better known as Acropera Loddigesii, Lindl.—but it has a larger lip, deep yellow in colour, with a few slender transverse streaks at the base, and the sepals are heavily marked with narrow transverse brown bars, which give it a very distinct appearance as compared with the species just named and with G. armeniaca, Rchb. f. (Acropera armeniaca, Lindl., *Bot. Mag.*, t. 5501). Reichenbach's figure is a very rude sketch, and it may be added that in the living flower the pair of bristles near the base of the lip are reflexed, not erect as shown, and that in the present individual the markings are more numerous than represented. All the other characters agree so well as leave no doubt of its identity. Its re-appearance is interesting.

R. A. R.

SOCIETIES.

ROYAL HORTICULTURAL.

THE last meeting prior to the great Temple Show was held at the Drill Hall, Buckingham Gate, Westminster, on May 7th, when the display of Orchids was particularly fine, and the awards included five First-class Certificates, seven Awards of Merit, and one Botanical Certificate. The Orchid Committee were represented by J. Gurney Fowler, Esq., in the Chair, and Messrs. E. Ashworth, H. Ballantine, W. A. Bilney, T. W. Bond, H. J. Chapman, W. Cobb, De B. Crawshay, J. Douglas, W. B. Latham, H. Little, J. W. Odell, H. T. Pitt, F. A. Rehder, F. J. Thorne, H. A. Tracy, W. H. White, W. H. Young, and J. O'Brien (Hon. Sec.).

J. Leemann, Esq., Heaton Mersey (gr. Mr. Edge), staged a magnificent group, which gained a Silver-gilt Flora Medal. It included some very fine examples of Oncidium Marshallianum, Cattleya Skinneri alba, and C. Lawrenceana, Lælio-cattleya × Mozart (Boothiana × tenebrosa), L.-c. × Martinetii, L.-c. × Hyeana, L.-c. × Digbyano-Mendelii "Imperatrice de Russie," some excellent Odontoglossum crispums, both white and spotted, O. triumphans Golden King, some good O. × Adrianæ, O. × Hallii, O. × Ruckerianum, and other hybrids. A First-class Certificate was given

to O. c. Confetti, excellent in form, tinged with purple, and closely spotted with deep purple, and Awards of Merit to O. c. Domino and O. c. Countess of Derby, both good spotted forms, also to Brasso-cattleya × nivalis, a hybrid obtained by crossing Brassavola fragrans and Cattleya intermedia, and much resembling B.-c. × Lindleyana.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), also staged a fine group, and gained a Silver Flora Medal. It contained some good Lælia purpurata, L. xanthina, Epiphronitis × Veitchii, Oncidium ampliatum, Cypripedium Lawrenceanum Hyeanum, and others. Cattleya Skinneri alba, some good C. Schrœderæ, and Odontoglossums citrosmum, crispum, triumphans, &c. First-class Certificates were given to O. Hallii King Edward VII, one of the finest forms yet flowered, and to Cattleya Schrœderæ heatonensis, a beautiful, pale lilac form.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), also gained a Silver Flora Medal for a fine group, including some very fine forms of Odontoglossum × Andersonianum and O. crispum, one of the latter bearing a spike of twelve flowers, together with two large seed-capsules, being a further example of excellent culture. An Award of Merit was given to O. c. Raymond Crawshay, a fine form with broad segments profusely blotched with orange-brown, and slightly tinged with purple.

The Hon. Walter Rothschild, M.P., Tring Park (gr. Mr. Hill), received a First-class Certificate for Lælio-cattleya × Digbyano-Mendelii Tring Park var., a very large form, prettily tinged with pink, and an Award of Merit for Lælia × Mrs. Gratrix Tring Park var., bearing a fine, three-flowered inflorescence.

Walter Cobb, Esq., Tunbridge Wells (gr. Mr. Howes), sent some good forms of Odontoglossum × Adrianæ. O. × A. Cobbianum, in which most of the ground colour was obliterated by the heavy, dark chestnut-brown spotting, receiving an Award of Merit.

Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), sent a fine specimen of Dendrobium × Euterpe, and the rare Sobralia Ruckeri, the latter receiving an Award of Merit.

Frau Ida Brandt, Zurich (gr. Mr. Schlecht), sent Brassia maculata and the rare Oncidium stramineum, the latter receiving a Botanical Certificate.

J. G. Fowler, Esq., S. Woodford (gr. Mr. Davis), sent the remarkable Dendrobium macrophyllum.

Captain Holford, Westonbirt, Tetbury (gr. Mr. Chapman), showed Sophrolælia × læta Orpetiana, with a pretty carmine-rose flower.

Major Joicey, Sunningdale Park (gr. Mr. Thorne), sent a splendid specimen of Diacrium bicornutum and a good Dendrobium macrophyllum.

W. W. Mann, Esq., Bexley, showed a fine white Odontoglossum crispum bearing a single blotch on each segment.

F. W. Mason, Esq., The Firs, Warwick, showed three good forms of Cattleya Mendelii.

F. A. Rehder, Esq., Gipsy Hill (gr. Mr. Norris), sent Dendrobium Wardianum aureum, a remarkable form with light yellow sepals and petals.

Baron Sir H. Schröder, The Dell, Staines (gr. Mr. Ballantine), showed a spike of the rare and remarkable Cymbidium pendulum atropurpureum (*Bot. Mag.*, t. 5710).

Col. Shipway, Chiswick (gr. Mr. Walters), sent the pretty Lælia purpurata Russelliana.

R. G. Thwaites, Esq., Streatham (gr. Mr. Black), sent Odontoglossum × Wilckeanum Thwaitesianum, a singular, nearly white form.

B. B. White, Esq., Arddarroch (gr. Mr. Cole), sent a fine Odontoglossum × Andersonianum.

Mr. H. A. Tracy, Twickenham, received an Award of Merit for Cattleya Mendelii Queen Alexandra, a large and beautiful form, having a rose-coloured feather on the tip of the petals, and the front part of the lip freckled with rose-purple.

Mr. R. B. Leech, Dulwich, sent a fine Epidendrum Wallisii, which received a Cultural Commendation, also two Oncidiums.

Messrs. James Veitch & Sons, Chelsea, staged a fine group, containing on the back good examples of Oncidium Marshallianum, Cymbidium Lowianum, C. × eburneo-Lowianum, C. eburneum, Epidendrum × Endresio-Wallisii, E. × elegantulum and its var. luteum, and in front of these some fine examples of Cattleya Schrœderæ, Lælia × Latona, Masdevallia Veitchiana, Odontoglossum crispum, and others, of which Lælio-cattleya × Hyeana, L.-c. × G. S. Ball, and Spathoglottis × aureo-Vieillardii were noteworthy.

Messrs. Hugh Low & Co., Bush Hill Park, staged a pretty group, containing a fine specimen of Cattleya Skinneri, some good C. Schrœderæ, Dendrobium thyrsiflorum, D. Devonianum, D. × Nestor, Epidendrum Stamfordianum, Bifrenaria Harrisoniæ, Oncidium concolor, and other showy things.

Mr. T. Rochford, Turnford Hall Nurseries, sent Odontoglossum crispum mirabile and several other fine forms of O. crispum, also a good light form of Cattleya Mendelii.

THE TEMPLE SHOW.

The fourteenth annual Temple Show was held in the Inner Temple Gardens, on May 22nd, 23rd, and 24th, and was again a great success, the weather being beautifully fine throughout. The display of Orchids was magnificent, though we think there was rather less in the way of novelty than usual, and the absence of the beautiful group usually staged by Sir

Trevor Lawrence was certainly missed, though we believe that the approaching marriage of Sir Trevor's son, and the natural desire to preserve as many flowers as possible for the occasion, was the principal cause of an absence which we hope will be only temporary.

The Orchid Committee was represented by :—H. J. Veitch, Esq., in the Chair, and Messrs. E. Ashworth, H. Ballantine, W. A. Bilney, T. W. Bond, H. J. Chapman, W. Cobb, J. Colman, De B. Crawshay, J. G. Fowler, E. Hill, A. Hislop, H. Little, J. W. Odell, H. T. Pitt, F. A. Rehder, T. Rochford, G. W. Law-Schofield, F. J. Thorne, H. A. Tracy, R. Brooman-White, W. H. Young, and J. O'Brien (Hon. Sec.).

Sir Frederick Wigan, Clare Lawn, East Sheen (gr. Mr. Young), staged a large and very beautiful group, to which the Sherwood Silver Cup was awarded. It contained many choice and well-grown plants, specially noteworthy being some grand spécimens of Cymbidium Lowianum, examples of Oncidium sarcodes, O. superbiens, O. monachicum, O. concolor, some good forms of Lælia purpurata, L. × cinnabrosa, L. Digbyana, Dendrobium nobile with about 350 flowers, D. Farmeri, some good forms of Odontoglossum crispum and O. × Adrianæ, O. Hallii, O. × Andersonianum, O. × elegans, O. Œrstedii, O. × Rolfeæ, O. × excellens, O. × gloriosum, some fine Miltonia vexillaria, M. Roezlii, the handsome Cochlioda Noetzliana, Maxillaria Sanderiana, Ada aurantiaca, Cymbidium Devonianum with six racemes, C. tigrinum, Aërides Fieldingii, Saccolabium curvifolium, Phalænopsis speciosa, P. amabilis, P. Sanderiana, Cattleya Skinneri with eight racemes, C. S. alba, with 27 flowers, some good C. Mossiæ, C. Mendelii, C. Forbesii, C. Schilleriana, C. superba splendens, the remarkable little Eria extinctoria, Cypripedium bellatulum, C. b. album, C. niveum, C. callosum Sanderæ, C. Rothschildianum, some brilliant Masdevallias, Scuticaria Hadwenii, Angræcum modestum, Pholidota imbricata, Lælio-cattleya × G. S. Ball, L.-c. × Hippolyta, and a variety of others, altogether forming a very fine group. A First-class Certificate was given to Lælio-cattleya × Edgar Wigan (L.-c. Aphrodite × Lælia Digbyana), a very handsome hybrid.

Leopold de Rothschild, Esq., Gunnersbury Park, Acton (gr. Mr. Reynolds), staged a superb group of Vanda teres, bearing about three hundred spikes, including examples of the fine Gunnersbury Park variety, the whole forming a fine example of cultural skill. A Silver Cup was deservedly awarded.

John Leemann, Esq., West Bank House, Heaton Mersey (gr. Mr. Edge), staged a beautiful group of Odontoglossums, to which a Silver Banksian Medal was given. It contained some fine forms of O. crispum and O. × Adrianæ, O. Pescatorei, O. × Ruckerianum, O. × loochristiense, O. × Hunnewellianum, &c. Awards of Merit were given to O. × crispum, "The Nizam," a large spotted form, tinged with rose-purple, and to O. × Adrianæ Lindeniæ, a pretty form spotted with chocolate on a white ground.

W. Thompson, Esq., Walton Grange, Stone (gr. Mr. Stevens), showed Odontoglossum crispum Hebe, a fine white form bearing a spike of seventeen flowers, and a magnificent plant of Odontoglossum × Wilckeanum Golden Queen, bearing a spike of twenty flowers, to which both a First-class Certificate and a Cultural Commendation were given. It had formerly received an Award of Merit under the name of O. crispum Golden Queen, when not so fully developed, and its history was given in our volume for 1897. We repeat the figure of this superb plant.

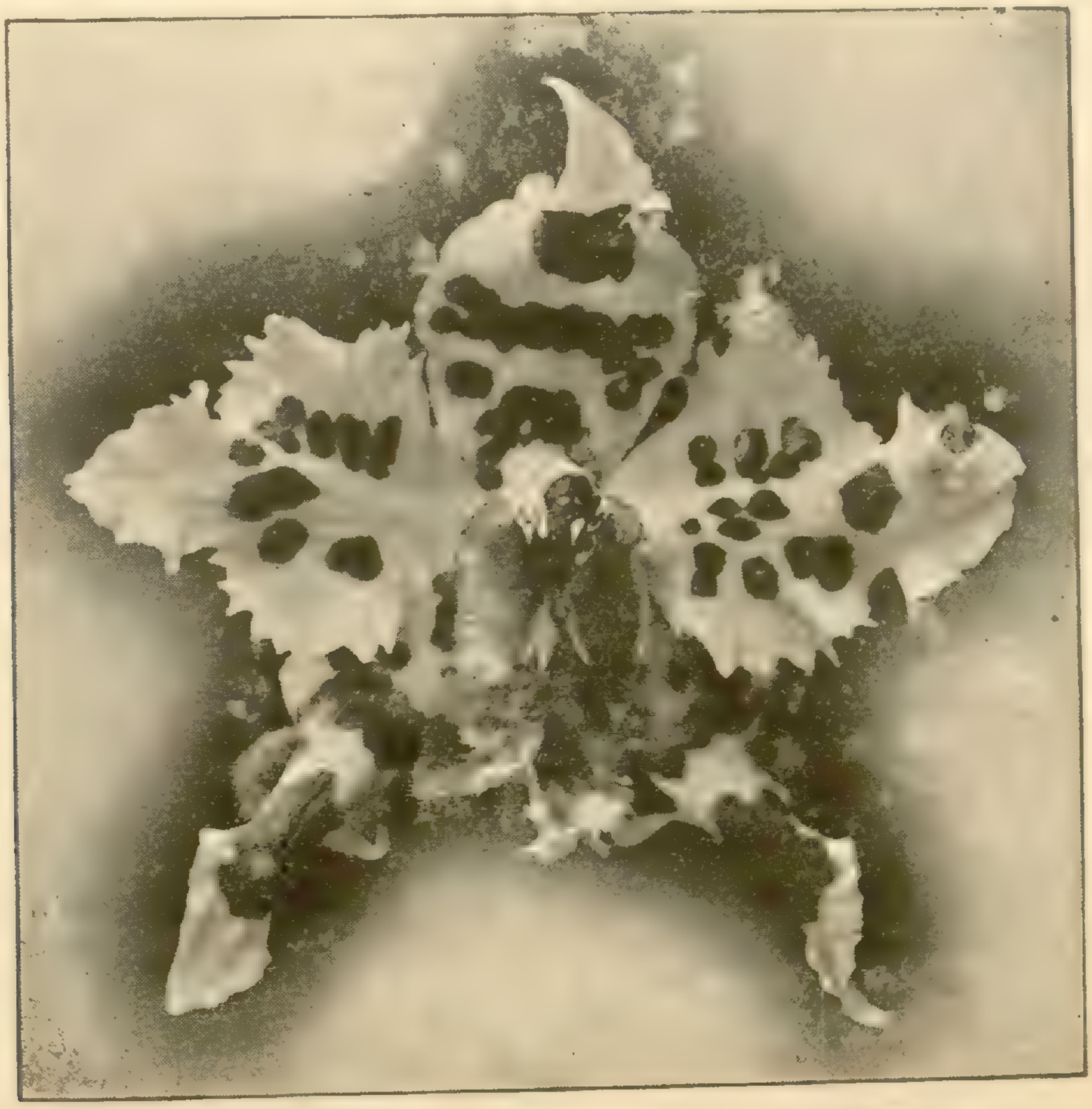

FIG. 28. ODONTOGLOSSUM × WILCKEANUM GOLDEN QUEEN.

H. T. Pitt, Esq., Rosslyn, Stamford Hill, (gr. Mr. Thurgood), received a First-class Certificate for Odontoglossum crispum Annie, a richly blotched form.

J. Rutherford, Esq., Beardwood, Blackburn, (gr. Mr. Lupton), staged a pretty little group, which received a Silver Banksian Medal. It contained nice examples of Odontoglossum crispum, Cattleya Mossiæ, C. M. Reineckeana, C. Mendelii, C. Warscewiczii, Lælia purpurata, Oncidium macrathum, and Dendrobium Phalænopsis.

H. Little, Esq., The Barons, Twickenham (gr. Mr. Howard), received an Award of Merit for Cattleya Mendelii gigantea, a fine light form with a very large lip.

H. J. Elwes, Esq., Colesborne Park, Gloucestershire (gr. Mr. Lane), received a Botanical Certificate for the pretty little Cypripedium guttatum.

E. Ash orth, Esq., Ashford, Wilmslow (gr. Mr. Holbrook), sent a pretty form of Odontoglossum × Denisonæ.

Capt. Holford, Westonbirt, Tetbury (gr. Mr. Chapman), sent good forms of Odontoglossum crispum and O. × Adrianæ.

M. Jules Hye de Crom, Ghent (gr. M. Coens), sent Odontoglossum × Rolfeæ with clear white ground, and some pretty forms of O. crispum.

Ludwig Mond, Esq., Avenue Road, Regents Park (gr. Mr. Clarke), staged an effective little group, containing good examples of Cymbidium Lowianum, Lælia purpurata, L. Cowani, Angræcum sesquipedale, Odontoglossum citrosmum, O. c. album, O. crispum, O. hastilabium, Cattleya Mossiæ, C. Schrœderæ, C. Mendelii, Lycaste aromatica, Cypripedium Mastersianum, Oncidium Papilio, O. Kramerianum, Dendrobium densiflorum, D. thysiflorum, and Epidendrum ciliare.

Colonel Shipway, Chiswick (gr. Mr. Walters), sent a distinct form of Odontoglossum × Denisonæ.

The Hon. Walter Rothschild, M.P., Tring Park (gr. Mr. Hill), sent Lælio-cattleya × Dido (C. Skinneri × L. cinnabarina), and another pretty form said to have been raised from L. cinnabarina × C. Dowiana.

Reginald Young, Esq., Sefton Park, Liverpool (gr. Mr. Poyntz), sent Paphiopedilum × Youngiæ (bellatulum × Hookeræ Volonteanum), a very promising hybrid as yet undeveloped.

Messrs. F. Sander & Co., St. Albans, staged a very fine group, which gained a Gold Medal. It consisted of over three hundred plants in excellent condition, of which considerations of space forbid more that a brief selection. Odontoglossums included some good O. crispum and O. × Adrianæ, O. × Rolfeæ, the deep yellow O. luteopurpureum Vuylstekeanum, O. × Harrayano-crispum Duchess of York, O. Edwardii, Lycaste Skinneri alba, Miltonia × Bleuana nobilior and M. × B. gigantea in excellent condition, the remarkable Bulbophyllum barbigerum, Cymbidium Lowianum concolor, many superb Cattleyas, Oncidium concolor, Masdevallia Houtteana, and numerous other beautiful things.

Mr. James Cypher, Cheltenham, also staged a fine, showy group, to which a Silver Cup was awarded. Cattleyas and Lælias were in excellent condition, and our notes include some good Miltonia vexillaria, Oncidium Marshallianum, O. concolor, and O. Papilio, Epidendrum radicans, Dendrobium atroviolaceum, D. × Nestor, some good Odontoglossums, Cattleya citrina, C. Skinneri with six racemes, Masdevallia × Heathii, &c., &c.

Messrs. Hugh Low & Co., Bush Hill Park, also received a Silver Cup for a very fine group, in which forms of Cattleya Mossiæ were superb, also Miltonia vexillaria and Odontoglossums excellent. We noted also Lælia

grandiflora (majalis), Cymbidium Lowianum and var. concolor, Cypripedium Lowianum Gratixianum, Lælio-cattleya × highburyesis, Oncidium Kramerianum, O. Marshallianum, Lælia Digbyana, Odontoglossum Uroskinneri, Cypripedium insigne Sanderæ, Cattleya Skinneri alba, Dendrobium Dearei, &c. An Award of Merit was given to Cattleya Mendelii Mrs. Robert Tunstill, a pretty, light form.

Messrs. Stanley Ashton & Co., Southgate, received a Silver-gilt Flora Medal for a showy group, containing some good Cattleyas and Odontoglossums, together with Miltonia vexillaria, Masdevallias, Oncidium sarcodes and Marshallianum, Cypripediums, Lælio-cattleya Massangeana, L.-c. × highburyensis, Cochlioda Noetzliana, Vanda tricolor, and other good things. An Award of Merit was given to Odontoglossum crispum Abner Hassell, a large and finely blotched form.

Messrs. Charlesworth & Co., Heaton, Bradford, staged a very fine group, to which a Silver Flora Medal was given. Besides the usual showy things of the season, it contained some fine hybrids, of which the firm has made such a speciality. We noted the handsome Lælio-cattleya × Major-General Baden Powell (L. tenebrosa × C. Lawrenceana), L.-c. × G. S. Ball, a splendid L.-c. × callistoglossa, L.-c. × Hippolyta, a splendid plant bearing three sturdy spikes and an aggregate of thirty-two flowers (Cultural Commendation), L.-c. × Ivernia (L.-c. × callistoglossa × L. tenebrosa) a fine thing which gained an Award of Merit, Lælia × Mozart (Boothiana × purpurata), L. Digbyana, some fine Cattleyas, Oncidiums, and Miltonias, Diacrium bicornutum, Masdevallia × Arminii, the remarkable M. × Imogene, Odontoglossum Hallii heatonense, having the disc of all the segments suffused with deep chocolate brown, O. × elegans, and many other fine Odontoglossums, &c.

Messrs. Linden, L'Horticulture Coloniale, Brussels, showed a fine lot of the Bornean Phalænopsis amabilis among a lot of scarlet Hæmanthus, and gained a Silver Flora Medal.

Messrs. B. S. Williams & Son, Upper Holloway, staged a fine group of the usual showy things of the season, and containing some good Vandas in the background, which received a Silver-gilt Banksian Medal.

M. Fl. Claes, Etterbeck, Brussels, received a Silver Banksian Medal for a fine group of Odontoglossums, in which forms of O. crispum and its hybrids were conspicuous. O. c. Captain Hocken, a fine spotted form, received an Award of Merit.

Messrs. John Cowan & Co., Gateacre, Liverpool, also received a Silver Banksian Medal for a fine group of showy things, in which Odontoglossums and Cattleyas were conspicuous, also two fine plants of Cœlogyne pandurata.

M. A. A. Peeters, St. Gilles, Brussels, sent the handsome Cattleya ×

Kerchoveana (Schilleriana × granulosa) Odontoglossums × Rolfeæ vars. ardentissimum and optimum, O. × Adrianæ mirabile, a large, spotted form, and the handsome O. crispum Queen Victoria.

MM. Janssens and Putzys, Antwerp, sent some good Odontoglossums, and Cattleya intermedia Bijou, a pretty, pearl pink variety.

In conclusion we noted some fine hybrid Lælio-cattleyas in a group of miscellaneous plants shown by Messrs. James Veitch and Son, of Chelsea.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

A MEETING of this Society was held at the Coal Exchange, Manchester, on April 18th, when the exhibits were numerous and excellent, the awards including eleven First-class Certificates and twenty-one Awards of Merit.

Mrs. Briggs Bury, Accrington (gr. Mr. Wilkinson), received a Silver Medal for a fine group, First-class Certificates being further given to Odontoglossum crispum Stevensii, O. c. Princess Royal, O. c. Empress Frederica, and O. c. Lady Ermentrude, and Awards of Merit to O. Queen Alexandra, O. Victoria Queen, Cattleya Schrœderæ alba, and Lælio-cattleya × Imperatrice de Russie.

J. Lehmann, Esq., Heaton Mersey (gr. Mr. Edge), staged a splendid group, gaining a Silver-gilt Medal, also an Award of Merit for Odontoglossum × tigrinum.

R. Ashworth, Esq., Newchurch (gr. Mr. Pidsley) also contributed a fine group, which received a Silver Medal. A First-class Certificate was given to Cypripedium callosum Sanderæ, and Awards of Merit to Odontoglossum Cervantesii decorum and O. seedling.

H. H. Bolton, Esq., Newchurch (gr. Mr. Eastwood), received Awards of Merit for Lælio-cattleya × Gladys, Odontoglossum × Adrianæ Countess Grey, Cattleya Schrœderæ Distinction, and Dendrobium × splendidissimum grandiflorum Heightside var.

Dr. Hodgkinson, Wilmslow (gr. Mr. Woore), received an Award of Merit for Dendrobium × Lilian.

E. Rogerson, Esq., received a similar Award for Lycaste Mrs. E. Rogerson.

S. Walker, Esq., received an Award of Merit for Odontoglossum nebulosum.

O. O. Wrigley, Esq., Bury (gr. Mr. Rogers), received an Award of Merit for Dendrobium × Socius.

Mr. John Robson, Altrincham, received First-class Certificates for Miltonia × Bleuana, Odontoglossum × loochristiense Statesman, and Cypripedium callosum Sanderæ, and an Award of Merit for Cattleya Mossiæ Duchess of York.

Messrs. James Veitch & Sons, Chelsea, received First-class Certificates for Cypripedium × Wottoni superbum and Lælio-cattleya × Dominiana langleyensis superba.

Messrs. Hugh Low & Co., Enfield, received Awards of Merit for Dendrobium Boxallii, Cattleya Trianæ perfecta and C. Schrœderæ cœrulescens.

Messrs. John Cowan & Co., Gateacre, received Awards of Merit for Odontoglossum crispum, O. Yellow Gem, and Lælia tenebrosa × Dayana.

Hamar Bass, Esq., Byrkley (gr. Mr. Nesbit); received a Cultural Certificate for Odontoglossum crispum Byrkley var.

The Annual General Meeting was held at the Coal Exchange, Manchester, on May 16th, and was well attended by the members. The report and balance-sheet showed the Society to be in a flourishing condition.

The awards in the annual competition were reported as follows:—J. Leemann, Esq., Heaton Mersey (gr. Mr. Edge), won the Gold Medal for the highest number of marks gained during the year; O. O. Wrigley, Esq., Bury, (gr. Mr. Rogers), was second, Silver-gilt Medal; and S. Gratrix, Esq., Whalley Range (gr. Mr. Cypher), third, Silver Medal.

The meeting adopted the following resolution:—"That one First-class Certificate only be awarded to any one distinct plant, and that, if desired by other owners of plants which have been previously certificated, a warrant shall be given under the direction of the committee, stating that the plant or plants exhibited by them are similar to those which have been awarded a First-class Certificate by the committee."

There was a fine display of Orchids, and the awards included four First-class Certificates, and nine Awards of Merit, besides three Medals.

J. Leemann, Esq., Heaton Mersey, (gr. Mr. Edge), staged a fine group of choice things to which a Gold Medal was awarded. First-class Certificates were given to Cattleya intermedia alba Leemann's variety, and Odontoglossum crispum Confetti, and Awards of Merit to O. c. Countess of Derby, O. c. Domino, O. c. Mrs. Leemann, and O. c. Ruby Gem.

W. E. Watson, Esq., Stretford, (gr. Mr. Jones), contributed a very beautiful group, which gained a Silver Medal, and Awards of Merit were given to Cattleya Schœderæ and C. citrina Watson's var.

T. Baxter, Esq., Morecambe (gr. Mr. Roberts), also received a Silver Medal for a very beautiful group, and an Award of Merit was given to Odontoglossum crispum var. Premier.

W. Duckworth, Esq., Flixton, (gr. Mr. Tindall), received an Award of Merit for the handsome Cattleya Mossiæ heatonense.

Mr. James Cyper, Cheltenham, staged a group of good things, and received a Vote of Thanks.

Messrs. John Cowan & Co., Gateacre, received a First-class Certificate for Odontoglossum crispum var. Perfection, and an Award of Merit for O. × loochristiense roseum.

Mr. A. J. Keeling, Cottingley, Bingley, received an Award of Merit for a beautiful Cattleya called C. Skinneri alba Keeling's var.

NOTICE OF BOOK.

Sander's Orchid Guide Book. F. Sander & Co., St. Albans. Large 8vo., pp. 330.

Messrs. F. Sander & Co. have now issued an Orchid Guide Book of the "best known species, varieties, and hybrids of Orchids in cultivation, their native countries, descriptions, seasons of flowering, best methods of cultivation, temperatures, &c." The arrangement is alphabetical, and the information is given in five parallel columns, containing the name, native country, brief description of flowers, season of blooming, and price; with a short, preliminary chapter on general culture, and further details under each genus. The hybrids are arranged at the end of each genus, in three columns, of which the first gives names and parentage, and the prices are often omitted. Turning to the popular genus Cattleya we find that the closely allied species of the labiata group are treated separately, but under the guttata group the authors have not emancipated themselves from the old nomenclature, for we find Cattleya amethystoglossa given as a synonym of C. guttata Prinzii, instead of the other way about, as it should have been. A similar remark applies to Cattleya and Lælia Dormaniana, and various others. Cypripedium is retained "for the sake of convenience," but an outline of the four genera into which it is now divided is given, and under their recent names. At the end of the work is given an alphabetical list of hybrid Orchids, which is intended to be complete as far as possible, arranged in three tables:—1, name of hybrid, 2, of seed parent, and 3, of pollen parent, the information being repeated under each, but without further details. This is very useful, but we note that the hybrid between Cypripedium barbatum and bellatulum appears under six different names, and the record C. caudatum × leucorrhodum, "Miss H. A. Roebling," and in the very next line, "Mrs. W. A. Roebling" is a typeof a kind of duplication which might have been avoided with advantage. It conclusion we must add that the work contains a large amount of useful information to Orchid growers in very handy form.

THE HYBRIDIST.

PAPHIOPEDILUM × VANNERI.—A distinct and striking hybrid, raised in the collection of the late W. Vanner, Esq., Camden Wood, Chislehurst, by Mr. Robbins, from P. × Calypso Cooksoni ♀ and P. Chamberlainianum ♂. The scape sent bears two flowers, which most resemble those of the pollen parent in shape and general character, though enlarged and modified in colour and other details. The dorsal sepal is rounded, 1½ inches broad, and very light whitish green, suffused with light shining brown to beyond the middle; the petals undulate, 1½ inches long, ciliate, and much

suffused with shining brown ; the lip two inches long, laterally compressed, and still darker in colour; and the staminode obovately dilated, and light brown with a darker blotch in front. It appears to have an excellent constitution and is likely to develop into a fine thing. It is dedicated to the late Mr. W. Vanner, who for many years was a most enthusiastic amateur of Orchids. The flowers were sent by J. E. Vanner, Esq., of the same address, and it is plesant to find that the collection is being continued, and still under the care of Mr. Robbins.

NOTES.

Two meetings of the Royal Horticultural Society will be held at the Drill Hall, Buckingham Gate, Westminster, during June, on the 4th and 18th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The Manchester and North of England Orchid Society will hold meetings at the Coal Exchange, Manchester, on June 6th and 20th.

A flower of a very remarkable variety of Dendrobium Wardianum is sent from the collection of F. A. Rehder, Esq., The Avenue, Gipsy Hill, in which all the sepals and petals are light yellow with the usual rosy tips. It is from an imported plant, and Mr. Rehder believes it to be unique. It is certainly very striking and beautiful, but we are puzzled to account for such a marked departure from the type, and shall be much interested to know if it proves constant. It is provisionally named D. Wardianum aureum.

We have received from Messrs. Hugh Low & Co., Bush Hill Park, Enfield, a flower of the charming Cattleya Mendelii Mrs. Robert Tunstill, which received an Award of Merit from the R. H. S. at the Temple Show. It is of excellent shape, with a much crisped lip, and the colour pure white, with a broad, semicircular or horse-shoe shaped marking in front of the light yellow disc. It is dedicated to the wife of R. Tunstill, Esq., of Burnley, Leeds, an enthusiastic amateur of Orchids.

American Gardening for April 27th announces:—"Charles Maynard will, we understand, shortly take charge of Mr. George Schlegel's garden and collection of Orchids." Mr. Maynard will be well remembered on this side of the water as for some years in charge of the hybridising department of Messrs. F. Sander & Co., and the raiser of many striking novelties.

Speaking of Hybrid Phalænopses, *Indian Gardening* remarks in its issue for April 25th, that it may interest Orchidists to learn that Mr. Gisseliere, superintendent of the Agri-Horticultural Society's Gardens, Alipur, has been hybridising several of this genus, and will shortly be able to add a few new hybrids to our existing varieties of Phalænopsis.

ORCHID PORTRAITS.

CATTLEYA MENDELII HIS MAJESTY.—*Gard. Mag.*, 1901, p. 323, with fig. VAR. QUEEN ALEXANDRA.—*Journ. Hort.*, 1901, xlii., p. 409, with fig.

C. × MISS HARRIS, VAR. E. ASHWORTH.—*Gard. Chron.*, 1901, xxix.,' p. 302, Suppl. fig.

C. MOSSIÆ VAR. MADAME LUCIEN LINDEN.—Lindenia, t. 733.

C. SCHRŒDERÆ HEATONENSE.—*Gard. Mag.*, 1901, p. 305, with fig.

CŒLOGYNE BARBATA, Griff.—*Lindenia*, t. 735.

C. CRISTATA (at Garthynghard).—*Journ. Hort.*, 1901, xlii., p. 385, with fig.

CYPRIPEDIUM × ALBERTIANUM VAR. ROTUNDIFLORUM.—*Lindenia*, t. 734.

C. × BINGLEYENSE VAR. LONGWOODENSE.—*Amer. Gard.*, 1901, p. 350, fig. 76.

C. × GERTRUDE HOLLINGTON.—*Journ. Hort.*, 1901, xlii., p. 431, with fig.

C. INSIGNE VAR. CHANTINI, SUB-VAR. LINDENI.—*Lindenia*, t. 738.

DENDROBIUM BRYMERIANUM.—*Journ. Hort.*, 1901, xlii., pp. 341, 343, with fig.

D. NOBILE (specimen).—*Garden*, 1901, lix., p. 377, with fig.

EPIDENDRUM × CLARISSA SUPERBA.—*Journ. Hort.*, 1901, xlii., p. 341, with fig

ERIOPSIS RUTIDOBULBON, Hook.—*Lindenia*, t. 739.

LÆLIA ANCEPS SANDERIANA.—*Amer. Gard.*, 1901, 331, fig. 72.

LÆLIO-CATTLEYA × EDGAR WIGAN.—*Gard. Mag.*, 1901, p. 317, with fig.

ODONTOGLOSSUM × ADRIANÆ COBBIANUM.—*Gard. Mag.*, 1901, p. 304, with fig. VAR. CRAWSHAYANUM.—*Journ. Hort.*, 1901, xlii., p. 363, with fig.

O. CRISPUM CONFETTI.—*Gard. Mag.*, 1901, p. 303, with fig. VAR. FRANZ MASEREEL.—*Garden*, 1901, lix., p. 328, with fig.

O. POLYXANTHUM.—*Gard. World*, 1901, p. 589, with fig.

O. × RUCKERIANUM MRS. R. BROOMAN WHITE.—*Gard. Chron.*, 1901, xxix., p. 279, fig. 102.

PHAIO-CALANTHE × SCHRŒDERIANA.—*Journ. Hort.*, 1901, xlii., p. 189, with fig.

CORRESPONDENCE. &c.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they may have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.)

I. C. A very good form of Lælia grandiflora (majalis).

L. C. Lælio-cattleya Schilleriana.

Photographs received, with thanks. J. E.R., R. M. P. (next month).

Received. J. M., J. W. P., W. H. Y., D. W., R. Y., H. J. R., E. F. C.

Owing to pressure on our space several notes are unavoidably postponed

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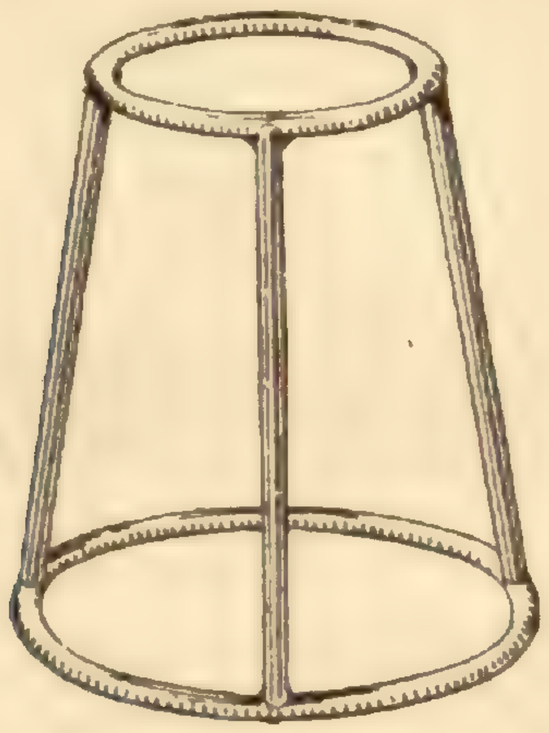

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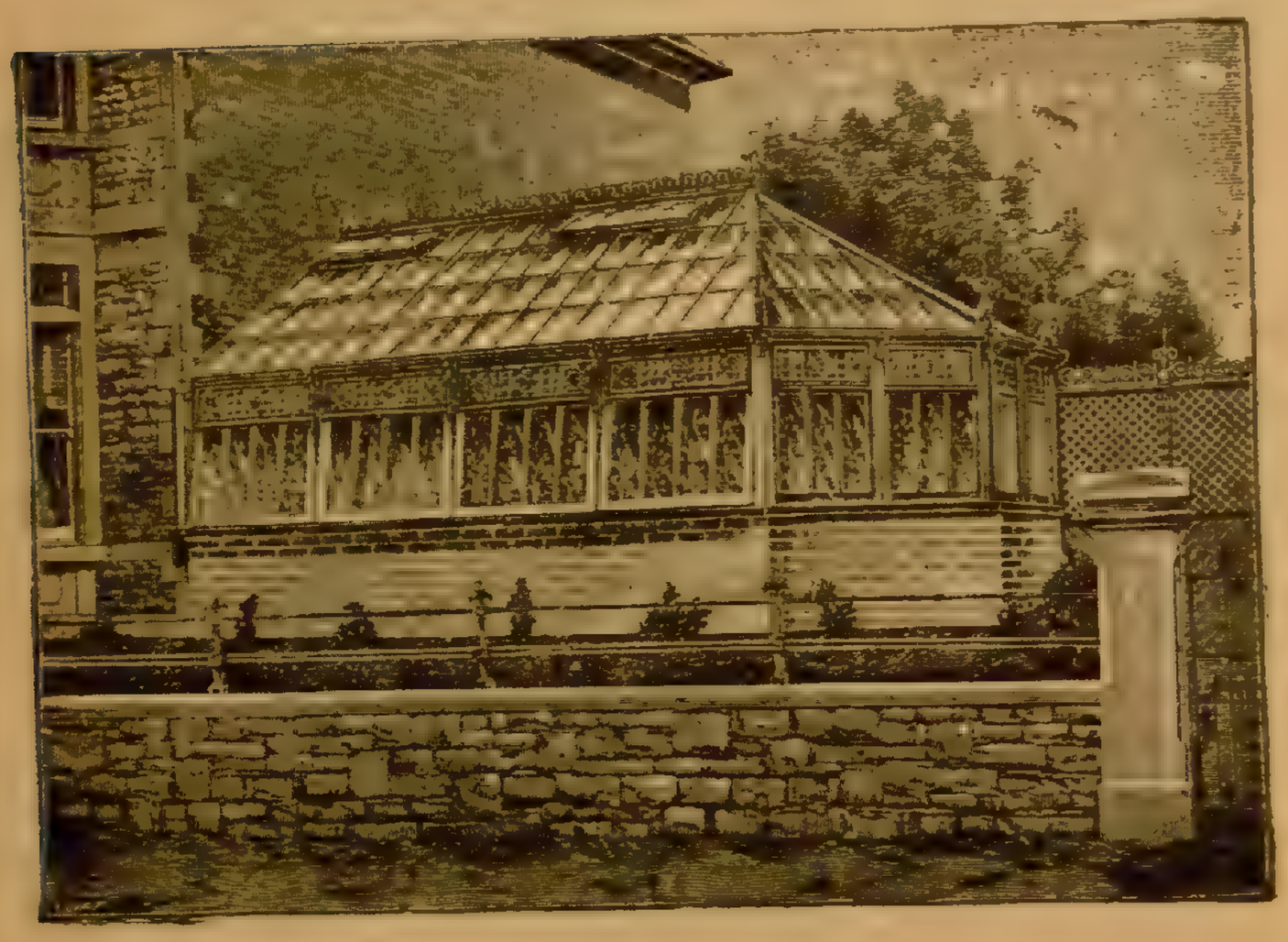

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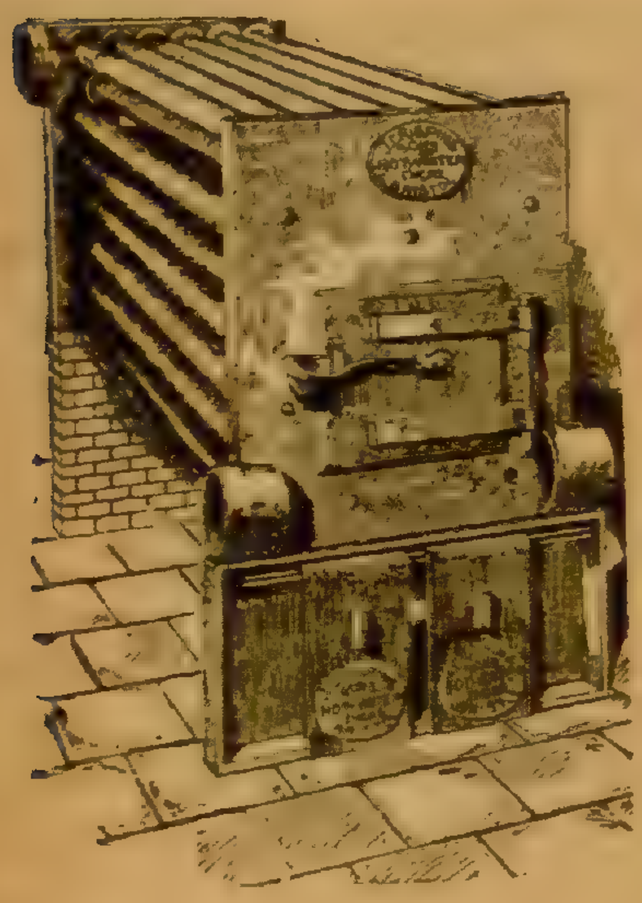

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THE ORCHID REVIEW.

VOL. IX.] *JULY*, 1901. [No. 103.

DIES ORCHIDIANI.

ONE of my correspondents seems to think that I am interested in "extraordinary Orchids," and obligingly sends me a newspaper cutting, accompanied by a sketch, which he thinks has fully earned the title. I think so, too, but my readers may prefer to judge for themselves, so let me reproduce the story, which is perhaps graphic enough to do without the sketch. The latter I am sorry to say was not prepared from a photograph, and our Editor I believe has a weakness for such things—a fact which the writer of the story will perhaps bear in mind another time. I may also add that I do not follow all the details, but then only the cinematograph would do justice to such a subject. Silence, please, for the story.

"EXTRAORDINARY ORCHID,
LETS DOWN A PIPE TO DRINK.

"What is probably the most extraordinary plant ever discovered has now been found by E. A. Suverkrop, of Philadelphia, who, during trips to South America, has for some years been contributing to the collection of his friend, Professor N. E. Brown, of the Herbarium, Kew Gardens, London. The amazing plant which Mr. Suverkrop has now found is an Orchid which takes a drink whenever it feels thirsty by letting down a tube into the water, the tube, when not in use, being coiled up on top of the plant.

"ONE HOT AFTERNOON.

"One hot afternoon," says Mr. Suverkrop, "I sat down under some brushwood at the side of a lagoon on the Rio de la Plata. Near at hand was a forest of dead, shorn trees, which had actually been choked to death by Orchids and climbing cacti. In front of me, and stretching over the

water of the lagoon, and about a foot above it, was a branch of one of these dead trees. Here and there clusters of common *planta del ayre* grew on it, and a network of green cacti twined round it. Among the Orchids I noted one different from the rest, the leaves, sharp, lancehead shaped, growing all round the root and radiating from it. From the centre or axis of the plant hung a long, slender stem about one-eighth of an inch wide, the lower end of which was in the water to the depth of about four inches.

"LIKE A ROLL OF TAPE.

"I at once went over to examine my discovery. Imagine my surprise when I touched the plant to see this centre stem gradually contract and convulsively roll itself up in a spiral like a roll of tape, and when the plant was in want of water this tube would gradually unwind till it dipped into the water.

"SLOWLY COIL AND WIND UP.

"Then it would slowly coil round and wind up, carrying with it the amount of water that that part of the tube which had been immersed contained, until, when the final coil was taken, the water was dumped, as it were, direct into the roots of the plant. The coil remained in this position until the plant required more water. Should the plant, however, be touched while the tube is extended, the Orchid acts like the sensitive plant (Mimosa) and the coiling action is much more rapid."

There it is, and I am coolly asked what I think of it? Why not ask me to determine the genus; or to say what particular part of the plant that mysterious "tube" represents? A few other questions might also be asked, but when one begins to dissect a story of this kind one never knows when to stop. On the whole I prefer to wait till someone sends a "specimen," which could be dealt with more satisfactorily. Its investigation will no doubt yield some equally startling results—when it comes.

We have had an interesting little discussion on Orchid Nomenclature, though, so far as I can see, without any very practical results. The remarks of "Spectator" at page 180 seem to be very much to the point. It is doubtful whether a great Central Authority would effect much improvement unless Orchidists are prepared to support its decisions regardless of personal considerations. But there seems to be no known method of combining the conflicting interests which are at work. We do not want a repetition of the farce of appointing a Nomenclature Committee to draw up Rules, but without the power to see them enforced. It would be better to allow things to to drift on as at present, and in any case the result would be much the same. What is wanted is a few simple Rules, and a Censor who will see that they are rigidly enforced. The former we already have, and the chief difficulty

about the latter will be to invest him with the necessary powers. When this is accomplished there will be some chance of improvement.

I alluded at page 162 to the splendid group of Orchids exhibited by Sir Frederick Wigan, at the Temple Show, which gained the Sherwood Silver Cup. The Council of the Royal Horticultural Society have since awarded a Gold Medal to the group in recognition of its excellence, and I may congratulate Sir Frederick and his able grower, Mr. Young, on the double honour.

ARGUS.

A DIMORPHIC ORCHID.

A VERY curious Orchid, which had been imported from New Grenada, has just flowered in the establishment L'Horticulture Coloniale, at Brussels. It had at first three strong, sessile pseudobulbs, not unlike those of a large Oncidium, but from the last was produced a large leafy shoot, from the angles of which the flowers are at length produced, showing the plant to be an Ornithidium. This peculiar method of growth seems to be characteristic of many of the Ornithidiums. Some time ago a plant of O. coccineum in the collection of Baron Sir H. Schröder, was noted in these pages as "a very remarkable as well as pretty plant, for it has two kinds of growth; one an ordinary pseudobulb, the other a leafy flowering shoot, and the latter on the plant in question has produced a succession of flowers for the last four or five years" (*Orchid Review*, v. p., 228). Of the plant first mentioned—which has now been presented to Kew—M. Lucien Linden remarks that it has attracted much attention from visitors on account of its curious character. It is peculiar in having produced three ordinary pseudobulbs in succession before the leafy shoot appeared, by which the appearance of the plant was completely altered. These bulbs range from 1½ to 2½ inches long by about three-quarters as broad, and are somewhat compressed. Each bears a single leaf at the apex and a pair of others at the base, all being strap-shaped, somewhat recurved, and ranging from three-quarters to over a foot long. The leafy shoot is a foot high, and bears twenty leaves ranging from 2¼ to 4 inches long. The first flower produced proves to be abnormal, having three lips, but this is probably an accidental occurrence. It is about equal to O. coccinea in size, but the colour is bright yellow with a crimson blotch on the front of the lip. Its name is at present uncertain. It would be interesting to discover the reason why several species of this genus have acquired the character of producing a special kind of flowering growth.

R. A. R.

THE HYBRIDIST.

Lælio-cattleya × Edgar Wigan.

A very handsome hybrid was exhibited at the Temple Show by Sir Frederick Wigan, Bart., under the name of Lælio-cattleya × Edgar Wigan, and was awarded a First-class Certificate. Its parentage was recorded as Lælio-cattleya × Aphrodite ♀ and Lælia Digbyana ♂, and as the former was derived from Lælia purpurata and Cattleya Mendelii the novelty has three species in its ancestry. A flower sent by Mr. Young shows that the Lælia Digbyana characters again come out very strongly, both as regards shape and colour. The general shape is that of the latter, with a more entire, much less fringed lip, and the petals enlarged to two inches broad. The greater part of the flower is of a delicate blush pink, with a light yellow tinge in the throat of the lip, and the front lobe a rather brighter pink than the rest of the flower. It is a magnificent flower, but the Lælia Digbyana influence has, as usual, obliterated most of the rich purple colour seen in the lip of the other parent.

Paphiopedilum × Youngiæ.—Two plants of a very promising hybrid from the collection of Reginald Young, Esq., Sefton Park, Liverpool, were exhibited at the Temple Show. They were derived from P. bellatulum ♀ and P. Hookeræ Volonteanum ♂, and are now flowering for the first time from seed sown in February, 1895. The seedlings first appeared in July, 1896. The plants are dwarf, and most resemble the seed-parent in general character, though the flower is modified in shape, and closely mottled and spotted with red-purple on a lighter ground. The leaves are also very prettily variegated. The plants are still very small, and, it is evident, will improve considerably when they become stronger. The staminode of one flower, it may be remarked, was green on one half, and purple on the other, giving it a harlequin-like appearance, but this may not prove constant. It is dedicated to Mrs. Young.

Dendrobium × Wilsoni.—An interesting hybrid Dendrobium is sent by Mr. D. Wilson, Tollcross Park, Glasgow, together with its two parents, D. nobile (a fine coloured form) ♀ and D. × Owenianum ♂. The cross was made when Mr. Wilson was gardener to Hugh Stevens, Esq., Westmount, Kelvinside, Glasgow, and, on leaving, Mr. Stevens gave him a few of the seedlings, of which the first has now flowered. D. × Owenianum is a hybrid from D. Linawianum and D. Wardianum—really a variety of D. × chlorostele—and the present novelty most resembles a light form of D. nobile. The sepals and the upper quarter of the petals and tip of the lip are light rose purple, the rest of the flower being white with a dark maroon disc. The yellow of the pollen parent seems quite obliterated in the first

seedling. With such a parentage it can hardly fail to develop into a fine thing, even if less distinct in colour than could have been wished, and other seedlings may vary in this respect.

LÆLIA × DIANA.—A hybrid between Lælia purpurata and L. Dayana ought to be a fine thing, and it is surprising that it has not appeared before. Mr. A. J. Keeling, of Cottingley, Bingley, has now flowered such a plant—the seed parent being L. purpurata rosea—and it is just as good as might have been anticipated. Moderate in size, excellent in shape, and extremely rich in colour, it is a decided acquisition. It is most like L. Dayana in shape, and the petals measure 2½ inches long by over 1¼ inches broad, while the lip is large and nicely undulated. In colour the latter organ is a very deep, almost blackish purple, rather lighter in front and at the extreme base, while the rest of the flower is very bright rose-purple. The prominent keels of L. Dayana are only represented by rather darker, scarcely thickened veins. The plant is four years old and not yet fully developed. The flower sent is from a plant exhibited at the R. H. S. meeting on June 18th last.

LÆLIO-CATTLEYA × VINESIÆ.—A handsome hybrid from the collection of E. F. Clark, Esq., Chamonix, Teignmouth, which was purchased from Messrs. Charlesworth & Co., of Bradford, as a hybrid derived from Lælia tenebrosa × Lælio-cattleya × Phœbe. The latter was derived from Lælia cinnabarina and Cattleya Mossiæ — and is indeed a form of L.-c. × Hippolyta, originating from the reversed cross—and the new hybrid is such a plant as might have been expected. The sepals and petals are tawny yellow—the latter measuring over three inches long by nearly 1¼ broad—and the lip much like that of L. tenebrosa, but smaller and of a brighter purple. It is a most promising hybrid, and should develop into a fine thing when the plant becomes strong. It is dedicated by request to Mrs. Clark, *née* Miss Edith Vines.

LÆLIO-CATTLEYA × BALLII.—This is a very handsome hybrid originally raised by Messrs. James Veitch & Sons from Lælia cinnabarina ♀ and Cattleya Schrœderæ ♂. A very beautiful flower of a hybrid derived from the same two species is sent from the collection of E. F. Clark, Esq., Chamonix, Teignmouth. It bears a general resemblance to the former, much enlarged in size, and the colour is deep orange-yellow, with the front part of the lip more or less suffused with a reddish tinge in front of the orange disc. Several plants of this fine hybrid appeared in groups at the Temple Show, varying somewhat in colour, but the front lobe of the lip seems to be generally lighter than in other hybrids between L. cinnabarina and the species of the labiata group. It is a very handsome hybrid.

ORCHID GROWING IN THE DESERT.

No doubt it will appear somewhat strange to the readers of the ORCHID REVIEW to hear that under the burning sky of the North West Provinces of India—where a most merciless sun not only makes plant life nearly an impossibility, but is also most trying to human life; where during the summer months the temperature rises as high as 105° in the shade, with most terrific burning winds, often accompanied by tremendous sand storms —a faithful reader is trying to give a home to some of our favourites. During the winter months the change which takes place is also most remarkable, the temperature falling nearly to freezing point, which makes plants in general, and exotics in particular, most difficult to keep alive.

Do not expect to hear of such plants as Eulophiella Elisabethæ or Peetersiana, Phaius tuberculosus or Diacrium bicornutum, growing here. No! We have to be more moderate in our enterprise and wishes. A couple of dozen species only have up to now succeeded in this part of the world. They are mostly Himalayan species, and it is most wonderful to observe to what curious conditions some of them are adapting themselves. It is thus that our common Bengal Dendrobium Pierardi has found a place here, where no greater extreme in atmospheric moisture could be found. Still, with care and attention in providing a constant artificial dampness, our plant in question has favoured us with a profusion of blooms, and is making fairly good growth. D. thyrsiflorum, densiflorum, nobile, Wardianum, aureum, lituiflorum, Dalhousianum, are under special care, and several of them are making pretty good growth. With the exception of D. aureum and Wardianum, all have flowered most wonderfully, considering the circumstances under which they are placed. In the case of D. lituiflorum, a most curious thing happened, for half the flowers were self fertilized and produced a quantity of seed pods.

Cymbidium aloifolium is really worth recording for its adaptibility to circumstances. On my arrival here I found a few specimens of it thriving under most strange conditions. Some are simply plunged into a pot with a few ashes, others just resting on broken pots, and according to tradition these unfortunate plants have been treated thus for years. They flowered most profusely.

A few terrestrial species have also been tried. Phaius Wallichii seems to be doing well; Cypripedium insigne and Spicerianum seem to feel the intensely burning heat; C. venustum appears more robust; Bletia hyacinthina is just showing its buds; Eulophia andamanica and Geodorum dilatatum are also growing, but no signs of flower are to be detected. Aërides affine, Fieldingii, odoratum, and radicosum, together with Saccolabium ampullaceum, S. guttatum, and Sarcanthus pallidus have, to my great astonishment,

survived two most severe summers, and several of them have rewarded me for my constant attention by a few flower spikes.

Vanda teres is still in flower, but who would realize the amount of care it requires? Vanilla planifolia, a lover of moisture, has thrived most successfully through our dry season. A few other Orchids have also rewarded me for my care; such as Eria flava, and Cœlogyne flaccida, which have made quite as nice a show as could be expected in European culture.

Now I must give you a little idea how plants of this kind are grown in this part of the world. Some twelve months ago I erected a conservatory 110 feet long by 40 feet wide, and 15ft. high in the centre. It is carefully protected from the burning winds by a big wall and partly shaded by surrounding trees. This conservatory is entirely made of iron covered with wire netting, and a double covering of "chicks" or bamboo blinds right over, which cut off the radiation considerably.

A rockery composed of dead tree trunks and stones of various kinds has enabled me to plant the different species according to their natural requirments, and it is only by constant care and attention, and supplying the essential element of moisture, that such epiphytic species have fought and overcome the natural inclemency of this desert-like country.

Horticulture under similar circumstances is a most trying undertaking, but nevertheless interesting, as it shows to what extent and how far the adaptability of plant life goes.

A. E. P. Griessen.

Taj and Govt. Gardens, Agra, N.W.P.

ORCHID NOMENCLATURE.

On page 180 of your June issue a writer, "Spectator," suggests a doubt as to whether support would be given to the decision of a "Central Orchid Society" in the nomenclature of Orchids, and adding that he fears that without support the effort to work improvement in this way is certain to fail. Would not something in the way of winning the needed support be accomplished if buyers, in general, would ask for such a certificate as a "Central Orchid Society" might give?

To a grower who really loves his Orchids, his plants become more or less individualized, and he is entirely justified in having names for the individuals, if he so chooses, while they are in his own house, but the cold-hearted buyer is equally justified in ignoring *this* individuality, and in asking for some name that, having less of the personal, will be sure to have more of authority.

F. J. Le Moyne.

Chicago.

ODONTOGLOSSUM × ADRIANÆ MARJORIE.

THIS is a very curious variety sent from the collection of Richard Ashworth, Esq., Ashlands, Newchurch, near Manchester, by Mr. Pidsley. The petals are short, broad, and distinctly concave, owing to the margin of the upper half being infolded, while just within the margin there is a row of small red-brown spots, the centre being white. The lip is also very short, and margined all round with more or less confluent spots. It was thought to be a form of O. crispum, but the shape and size of the flower, the nature of the crest, and the broad, crenulate, spotted column, together with the red-purple upper part of the column are rather those of O. × Adrianæ. The sepals are white with a few medium-sized blotches. It was purchased from Messrs. James Backhouse & Son, of York, two years ago as a very small imported plant, being then in bloom. Last year it failed to flower, but this year it again shows the same remarkable character, which suggests that the character may be permanent. The flower is said to be larger than two years ago, but the plant is still small. Mr. Pidsley remarks that he has never seen a flower having such peculiar petals and lip, with the spots arranged round the margins. It is certainly a very remarkable form, and we should like to see it again when fully developed.

ORCHIDS IN AUSTRALIA.

HAVING been a subscriber to the ORCHID REVIEW for about five years, and having noticed that you like to get the views of your readers, I have many times thought of sending you some photographs of my Orchids, to show you that we have a few in cultivation in this part of the Empire. I lately had a plant in flower which was bought as Cattleya crispa, though the lip to my mind is the only part which agrees with the description. The flowers are 6 to 6½ inches across, and uniform in colour, being of a beautiful rose-pink, and the lip quite a work of art. It has flowered twice with me, the first time with five flowers and the next time with six, and as I have a break just now as thick as one's thumb, and about five inches high, I shall look for eight blooms this time. It is half of a plant imported many years ago to Jamaica, where I got it. I send a photograph which may be interesting to your readers, if you think it worth while to reproduce it, as I don't suppose you hear much from this side of the world.

I am only an amateur grower of Orchids, and am forming my collection slowly, as they are difficult to get here. I imported some Cattleyas last July, and lost two only; when potted up they made eighteen plants. Cattleyas grow well here, some having made seven growths on a single plant, and of the new ones five are now in flower or sheath. I should

be glad to communicate to you respecting anything I grow, if worth while.

I have two fine pods of seed on a real good form of Vanda tricolor, one fertilized with its own pollen, and the other with pollen from Saccolabium Blumei, both on the same day. They are now two months old, and the former is about seven inches long, and the other only four inches and all spotted with white, but both look healthy.

R. M. POOLE.

Brunswick,

Victoria, Australia.

The photograph represents a fine example of Lælia crispa—Cattleya crispa is an old name of the plant which still clings to it in some gardens,

FIG. 29. LÆLIA CRISPA.

though long known to be erroneous—but according to the description the sepals and petals are unusually bright in colour, hence we should refer it to the variety purpurea (*Warn. Sel. Orch.*, ii., t. 9). The sepals and petals usually range from white to light blush.

It is interesting to find that Orchid culture is successfully practised at the Antipodes, where the conditions are so different from those which prevail here, and no doubt there are many species peculiarly adapted to such a climate. We have pleasure in reproducing the photograph, and shall hope to hear further of the progress of the collection.—ED.

LÆLIA GRANDIFLORA AND VARIETY ALBA.

An interesting note on "Lælia majalis and variety alba," by Mr. A. Dimmock, appears in *American Gardening* for June 1st (vol. xxii., p. 398). The white variety is very rare, if indeed it exists, in Europe, and we may add by way of preface that as Lælia grandiflora is one of the two species on which the genus was founded by Lindley (the other being L. autumnalis), and hence antedates L. majalis, we adopt the name of L. grandiflora alba for this variety.

"The typical form of this Orchid has been imported by thousands from Mexico to this country and Europe; cultivators have taxed their skill to promote the longevity of the plant under artificial conditions, but we rarely find it growing in a vigorous and thrifty state, and we yet have much to learn regarding its culture. Some years ago Mr. Chas. Carpenter, of New Brunswick, N.J., grew and flowered it for several years, growing it under very cool conditions, suspended near the ventilators during growth, and in the same house grew and flowered the beautiful Disa grandiflora, a plant well known by Orchidists, and also a lover of cool treatment, and now rarely seen in America. The natural conditions necessary for the welfare of this Lælia are particularly wanting after three or four years under glass in its northern home. By that time its natural sap gradually disappears, and success in its cultivation can only be attained by endeavouring to produce those 'natural conditions' as nearly as possible.

"A number of plants have been lost through resting after flowering, but as the blossoms appear with the young growth, and flower before they are fully developed, water should be given for three weeks or more after the plant has flowered, to enable the bulb to get fully matured. Afterwards give a good airy position and keep on the dry side, watering only to prevent the bulbs from shrivelling. As soon as young growths appear give frequent watering on bright days, with only slight protection from the sun's rays. Producing such a large flower from a small bulb, the resting period should be carefully studied.

"Quite a few 'alberos' of this species have been distributed through this country. One of the largest specimens, with over 40 bulbs and 10 leads was some time ago in the D. S. Brown collection at St. Louis. It is also represented in the collections of E. G. Uihleen, of Chicago; J. H. Berry, Detroit; Oakes Ames, of North Easton; Mrs. G. B. Wilson, of Philadelphia, and several others. It is now in bloom with Hicks Arnold, in his collection at Eighty-fourth Street, New York City. The blossoms are of the purest white—in fact, it is the whitest form of any Lælia we have yet seen. It is growing freely in a basket, and carries three spikes bearing blossoms of great size and substance.

"In the Mexican exhibit at the Pan-American Exposition, a small plant was recently flowering from a growth developed during its journey from its native home.

"L. majalis alba was illustrated in *Amer. Gard.*, vol. xx., p. 371."

A very fine flower of the typical form is sent from the collection of Isaac Carr, Esq., Twerton-on-Avon, Bath. Mr. Carr remarks that it has been grown in the Cool House, where air is kept on night and day from September to March, being kept rather dry.

Another splendid flower is sent from the collection of Sir Frederick Wigan, Clare Lawn, East Sheen, by Mr. Young. It has been well grown here for many years, the secret of success being plenty of light and very moderate watering all the year except when the plant is making new roots and filling up the bulbs.

ORCHIDS AT DARJEELING.

"INDIAN GARDENING" for May 16th, gives an account of a Flower Show held at Darjeeling, Sikkim, on May 6th, accompanied by four photographic illustrations, which show that some beautiful flowers were brought together, though Orchids were apparently not numerous.

A Silver Medal presented by S. P. Chatterjee for the best collection of Orchids in flower, not less than six plants, was won by H.H. the Maharaja of Cooch Behar, his exhibit of exotic Orchids having the preference over the two other competitors, who showed those indigenous to the district. *Indian Gardening* hopes to see this exhibit more largely contested on another occasion, as there should be a wealth of Orchids to be got near by that would compare favourably even with the Maharaja's exotics, whose names, by the way, are not given.

This exhibition was also first for a specimen Orchid, but again the name is not given.

A prize was offered, for what, to us in England, reads as somewhat novel, namely:—The most artistic arrangement of wild-flowers in a vase, basket, or bowl, including Orchids and Ferns. This was won by Mrs. E. A. Wernickie, with an arrangement of Orchids alone.

Other classes seem to have been well filled, and the Show, which is said to have been in abeyance for an interval of over twenty years, is said to have been so successful as to warrant the Committee to get up another Show for the Autumn, and to make the Spring Show an annual one.

By the way, we do not remember to have heard any more about the Indian Orchid Society which was inaugurated some time ago.

BRAZILIAN CATTLEYAS AND LÆLIAS.

THE last issued part of Martin's *Flora Brasiliensis* is chiefly devoted to Cattleyas, Lælias, and allied genera, and, as the latest revision of one of the most popular groups of Orchids in cultivation, deserves a short notice. Of the former genus thirty-four species are enumerated, the majority being understood in the same sense as in the classification given in this work a few years ago (*Orch. Rev.*, iii., pp. 266-270). But the following six, retained as species, must be deducted as being of natural hybrid origin — C. Patrocinii, C. sororia, C. Victoria-Regina, C. Whitei, C. Brymeriana, and C. Isabella. Three others are mentioned as natural hybrids, namely, C. intricata, C. scita, and C. Wilsoniana, and had the others been treated in the same way this would have reduced the Brazilian species to 28. But if we can congratulate M. Cogniaux on having adopted a rational arrangement of the species of the guttata group, we cannot speak of the labiata group in the same way. It is true that C. Eldorado is admitted as a species, but except in this single detail C. labiata is understood in the old aggregate sense, and this is how the question works itself out. First of all eleven "varieties" are admitted, namely:—vera, Dowiana, Gaskelliana, Lueddemanniana, Mendelii, Mossiæ, Percivaliana, Schrœderæ, Trianæ, Warneri, and Warscewiczii. Each of these "varieties" has again its own "varieties," of which an enumeration is given. Thus under vera about 71 varieties are enumerated, Dowiana has 16, Gaskelliana 11, Lueddemanniana 11, Mendelii 41, Percivaliana 6, Schrœderæ 7, Warneri 4, and Warscewiczii 20. Var. Mossiæ seems to have been difficult to deal with, for we find a list of 83 in alphabetical order, and then batches of 21, 37, 9, and 7, arranged in the same way, while Trianæ has three batches of 118, 4, and 8 respectively. This makes a total of about 474 "varieties of varieties," for they are enumerated as such—of this so-called species C. labiata, to which a space of twenty pages is devoted, much of it closely printed in small type. Considering that over 84 per cent. of these forms are not Brazilian at all, one cannot help wondering why they are included in a Flora of Brazil.

Lælia is divided into two sub-genera, Eulælia and Lælio-cattleya, the latter including three species, elegans, amanda, and porphyritis, though it is mentioned that they have been considered as natural hybrids. And here we get a still more complex nomenclature, for we find Lælia grandis var. tenebrosa, var. Gottoiana, var. marmorata, &c. Under Lælia elegans we find about 46 varieties enumerated, then a variety Schilleriana, of which latter variety 15 other "varieties" are given, the whole requiring about six pages for the elucidation of the question. This is a totally unnecessary complication, for it is pointed out that Rolfe considers elegans as a natural hybrid

between L. purpurata and C. Leopoldi, and Schilleriana between L. purpurata and C. intermedia, and the author might have added that the second point had been confirmed by direct experiment. Lælio-cattleya Pittiana is mentioned in a note as probably a natural hybrid between Lælia grandis and C. amethystoglossa, but Lælia Lindleyana is treated as a species, and the view that it is a natural hybrid between Cattleya intermedia and Brassavola tuberculata does not seem to have been considered even worthy of mention. A good many points about these natural hybrids have been elucidated during recent years, and it is unfortunate that so little use has been made of them by M. Cogniaux in his revision.

R. A. R.

ORCHIDS IN SEASON.

A VERY beautiful series of Orchids is sent from the collection of the Right Hon. Joseph Chamberlain, M.P., Highbury, Birmingham, by Mr. Mackay. First may be mentioned a magnificent form of Lælio-cattleya × Aphrodite, in which the best characters of Lælia purpurata and Cattleya Mendelii are combined. The sepals and petals are light blush, and the expanded part of the lip rich crimson-purple, with a deep yellow throat. L. c. × radiata is also very beautiful, uniting the characters of L. purpurata and C. dolosa, the sepals and petals being rosy-lilac, and the lip obscurely three-lobed and more or less veined with dark purple on a lighter purple ground. A flower of Cattleya Mendelii has only two sepals and two petals, the lip being absent, and the column slender, laterally flattened, and with an imperfect anther. It is of great size, the petals measuring 4½ inches long by 3 inches broad, and the colour blush white. A dozen forms of the brilliant Masdevallia coccinea (Harryana) show the wide range of colour seen in this handsome species, the most remarkable being var. armeniaca, whose flowers are of a peculiar orange-red, and var. Comet, of an intense crimson-scarlet. The others range from bright carmine down to light purple, and the flowers are splendidly developed. showing evidence of good culture. There are also flowers of M. caudata and M. × Shuttryana Chamberlainii, the latter a fine hybrid between the two preceding, most like M. caudata in general shape.

A flower of the beautiful, light-coloured Cattleya Mendelii Morganiæ is sent by Miss Mary Riley, Hapton House, Burnley. It was purchased from Messrs. F. Sander & Co. by the late John Riley, Esq., and is said to be part of the plant afterwards purchased by the Duke of Marlborough. The purple blotch on the front of the lip is more broken up than in the original figure (*Orch. Alb.*, i., t. 6). The other is a fairly typical C. Mendelii, having light blush sepals and petals, and the expanded front lobe of the lip rich purple-crimson.

An inflorescence of Cattleya intermedia is sent from the collection of E. F. Clark, Esq., of Teignmouth, of which one flower has three sepals and four lips. The latter are arranged cruciformly and the column is double, so that it looks like a union of two dimerous flowers. A seedling from Paphiopedilum Boxallii × Leeanum is a brilliant little form of P. × Adrastus, with a good deal of purple in the ground colour. P. × Crossianum and P. Argus are good flowers of their respective types, and Cattleya Schrœderæ is always very beautiful this season. A flower of the handsome Phaius × Normani is also enclosed, together with Odontoglossum gloriosum, a rosy form of O. Andersonianum, and an excellent form of O. Kegeljani (polyxanthum).

A very fine form of Lælia purpurata is sent from the collection of R. G. Thwaites, Esq., of Streatham. It is perfect in shape and measures eight inches in expanse across the petals. The expanded part of the lip is rich purple with a white area at the apex, while the sepals and petals are pure white. A good form of Odontoglossum × Denisonæ (Wilckeanum) is also sent, having copious brown markings on a light yellow ground, the sepals being more than half brown. A very curious, nearly white form with only a few small spots on the lip is also sent. It was exhibited at the R. H. S. meeting on May 7th as O. × Wilckeanum Thwaitesianum (see page 183.)

A fine plant of Vanda teres in the collection of Dr. Cranstoun, of Ludlow, was noted at page 223 of our last volume. Mr. Godfrey states that it has again done well this year, in proof of which he sends two splendid spikes bearing respectively seven and eleven flowers and buds, which are splendid examples of good culture. In each case there are terminal bracts, which suggest that even more flowers might ultimately be produced. Two fine forms of Cattleya Mossiæ are also sent, one of which extends no less than $9\frac{1}{4}$ inches from tip to tip of the petals, and the other is very richly coloured.

Several beautiful flowers are sent from the collection of Sir Frederick Wigan, Bart., Clare Lawn, East Sheen, by Mr. Young. Lælio-cattleya × Wiganiæ aurea (L.-c. × Gottoiana × C. Mossiæ) is a most beautiful flower, most like the former in general character, having the sepals and petals of a peculiar shade of salmon-buff, and the lip purple with a darker throat. The rare Cymbidium tigrinum is represented by a three-flowered raceme, besides which may be mentioned the handsome Phalænopsis speciosa, Epidendrum Parkinsonianum with large, buff-coloured flowers, and Miltonia vexillaria chelsoniensis, a good form bearing a rich brown blotch on the disc of the lip, which breaks up into radiating lines in front.

A nine-flowered inflorescence of Miltonia flavescens is sent from the establishment of Mr. A. J. Keeling, Cottingley, Bingley, Yorks. It is a striking species, the bracts measuring from two to three inches long, and the flowers light yellow, with a few light lines on the lip. The sepals and

petals are rather narrow, which perhaps accounts for its being somewhat rare in collections.

A spike of Cattleya Warscewiczii, bearing six splendid flowers, is sent from the collection of Dr. Cranstoun, Broad Street, Ludlow, by Mr. Godfrey, who remarks that there is a second spike of four flowers on the plant. A ten-flowered spike of Epidendrum vitellinum is also sent, evidently from a well-grown plant, as the flowers are splendidly developed. When thus grown it is one of the most effective species in the genus.

ANGULOA × DUBIA

For many years I have been looking out for the plant described by Reichenbach, in 1882, as Anguloa dubia, "*n. sp.*, *s. hyb.* (?)" and at last it has reappeared. It was originally described as follows :—"This is a very curious plant. At first sight the flower reminds one of a lemon-coloured Anguloa uniflora covered on the inside ot the sepals and petals with numerous minute purple spots. The shape of the flower is like that peculiar one of the species mentioned. The lip is very distinct. It is much compressed, with angular lateral lobes, and a very small, triangular, reflexed anterior lobe with very few short hairs. There is no vestige of that intrusion on the inferior base that is so conspicuous in Anguloa uniflora. It is white with purple blotches inside at the base of each side. The laciniæ and bidentate callus is ascending and naked, much like a sack. The rostellum of the flower is very short. It is not proboscoid, as in A. uniflora, and there is no running descending line on each side of it, as A. Clowesii and A. Ruckeri. Its odour is very powerful. The plant may be a natural hybrid between A. uniflora and A. Clowesii. It is highly desirable that it should be well watched in future, to ascertain if it is constant, or whether it changes its features. It would, however, appear to be highly improbable that several deviations had taken place at one time. It was imported with other Orchids from the United States of Colombia, and is said to be like A. Clowesii in growth. Mr. B. S. Williams is the possessor of this great curiosity. If the A. media of Mr. Bowring were placed by its side it would make a fine assemblage."—*Gard. Chron.*, 1882, xvii., p. 764.

Shortly afterwards the author added :—"Mr. B. S. Williams has kindly forwarded me a second flower, which is identical with the first one in all minute details; hence, the fear of its being an abnormal state is much lessened. This is a case of interest for science, as it has been shown often by Messrs. Veitch."—*l.c.*, xviii., p. 102.

What became of the original plant I have no idea, but one which has now flowered with Mr. James O'Brien, Harrow-on-the-Hill, agrees in all

essential particulars. It was sent from Colombia by Consul F. C. Lehmann, who thought it new. The flower, in point of size and shape of the perianth, rather inclines towards A. uniflora, but the colour is light yellow, slightly paler than in A. Clowesii, but with the addition of numerous minute red dots so characteristic of the species first named. The column and lip, however, are most like A. Clowesii in their essential details, and agree well with the characters pointed out by Reichenbach. The lip is white, with many red-brown dots on the lower part of the lobes, which are more or less confluent into a blotch. Its re-appearance is interesting, and I hope that some of these days we shall hear of an artificially raised hybrid between the two species. It has long been known that the three species of Anguloa, Clowesii, Ruckeri, and uniflora, grow in the same district, and it is rather singular that all the three possible hybrids between them have appeared, either as natural or artificial hybrids. All the hybrids seem to be very rare.

R. A. R.

DENDROBIUM × WALTONI.

When a note on the history of Dendrobium × Waltoni was given about a year ago (*Orch. Rev.* viii., p. 177, fig. 29), the question of its first appearance was not quite settled. It was traced back to April, 1879, when Reichenbach hinted at an earlier appearance, for he remarked, "I have a remembrance of Mr. Borwick (of Walthamstow) having spoken of a hybrid, even having sent flowers. I was then as incredulous as St. Thomas himself." The point is cleared up in a letter received from Messrs. Hugh Low & Co. in February, 1891, which has been overlooked. The plant had then been known for fourteen years, having appeared in the very first importation of Dendrobium Wardianum Lowii received by them in 1875, and it was first flowered by Mr. Walton, gardener to Alfred Borwick, Esq., Higham Hill, Walthamstow. It is suggested that the name D. × Waltoni was given by Reichenbach, though it appears not to have been published until 1885, when a note appeared in the *Garden* (xxvii., p. 119), presumably from the pen of the late Mr. Gower. This point it might be difficult to clear up, unless the original letter could be found, or some evidence exists in the Reichenbachian Herbarium. The uncertainty about its origin might easily account for some delay in publication, but further evidence came to hand in due time, and when, in 1892, Messrs. James Veitch & Sons flowered artificially raised seedlings, all doubt about its being a natural hybrid between D. crassinode and D. Wardianum vanished.

R. A. R.

STANHOPEA WARDII

THE accompanying illustration represents an inflorescence of Stanhopea Wardii from the collection of J. W. Arkle, Esq., of West Derby, Liverpool. The plant was bought as newly imported about 12 months ago, and is believed to have been sent home by a collector who was in search of Cattleya Mendelii, though the exact district is uncertain, for, owing to the revolution out there, the collector's movements are said to have been somewhat erratic. The photograph was taken by Miss Arkle, and represents the inflorescence as protruding from the bottom of the basket, the upper part of the plant not being included.

FIG. 30. STANHOPEA WARDII.

The species was originally figured and described in Lindley's *Sertum Orchidaceum* (t. 20), from a plant which flowered with Messrs. Loddiges, of Hackney, the author remarking that it was sent to England from La Cynayra, Venezuela, by Mr. Ward, after whom it was named by Messrs. Loddiges. Shortly afterwards it flowered with Messrs. Hugh Low & Co., and with George Barker, Esq., of Birmingham, the latter being figured in Westcott & Knowle's *Floral Cabinet* (ii. t. 90). Messrs. Loddiges also named a plant Stanhopea aurea, which was described by Lindley (*Bot. Reg.*, 1841, Misc., p. 11), with the remark that it came from Guatemala. It had

deep yellow flowers with two very dark blotches on the hypochil of the lip, but it was afterwards made a variety of S. Wardii by Lindley (*Fol. Orch.*, Stanh., p. 4), who also remarked that S. venusta was a whole-coloured variety. The plant figured in the *Botanical Magazine* (t. 5289) represents the variety aurea, and is also said to have come from Guatemala. It flowered at Kew. The one now figured most resembles the original form, which had the sepals and petals much spotted. Thus the species appears to be rather variable, and its geographical area is very imperfectly known. It is a very handsome plant and floriferous when well grown.

Stanhopeas are not difficult to cultivate. They should be grown in shallow baskets in a compost of fibrous peat with a few crocks, and suspended from the roof of the East Indian or Warm Cattleya House. During active growth a good supply of water should be given, but when this is completed they require a good rest during which period they should be kept pretty dry at the roots. They will also succeed well in an ordinary stove under the same treatment.

CALENDAR OF OPERATIONS FOR JULY.

By H. A. BURBERRY, Orchid Specialist, King's Heath, Birmingham.

THE cold weather we have had up to the present has not been altogether what Orchidists would term favourable for Orchid growing. Warmth from the hot-water pipes has had to be a little too frequent, making a great deal of extra work, because the plants dry more quickly and require water more frequently. The atmosphere, too, needs watching more closely, or it soon becomes dry and parched—quite the opposite to what is good and conducive to growth, but on the other hand very favourable to thrip, red spider, aphis, and insect pests generally. Such things as these, however, must, under no circumstances, be allowed to exist. On the very first signs of thrip, or aphis, fumigate with XL. ALL vaporising insecticide, and for red spider sponge with soapy water, thus preventing the growth of these pests, which is better than cure.

Even though the climate this season has been just a little contrary to our wishes, I daresay we shall find that, by the end of the season, the laws of nature will put things pretty straight.

As I have pointed out in these columns before, no good, but more probably harm, will result by worrying too much, and endeavouring too persistently to create great heat, and what we may fancy to be growing conditions in our houses when not assisted in the slightest degree by the outside conditions. The cultivator that is careful in this respect, and does not try to force his plants during uncongenial weather, having only slight warmth in the pipes occasionally, during the very coldest periods, just to keep away

the danger of damping off, &c., will be less troubled with insect pests, and also rewarded with a more sturdy and vigorous lot of plants at the end of the season. We are bound to have growing periods, and such should, of course, be fully utilized, so that growth may be free and rapid while the natural means for promoting it are at hand. The plants should then have moisture at the root and overhead in abundance, and, except for the Cool House kinds, good heat as well.

The Dendrobiums are now in full growth. D. chrysanthum has completed its new pseudobulbs, and will bloom before resting. It is now pushing its flower buds, and after blooming it should be taken to a cooler house, where it will enjoy a very long and dry rest. But I may again caution growers against the withholding of water too quickly from the roots of an Orchid on its removal from a moist atmosphere to a dry one. It is quite possible that it may even require more for a time. A plant must be hardened off gradually or injury may result. If the grower has no second house for maturing the growths of this genus, the most suitable positions in the growing house, must, of course, be selected for the purpose. To partition off temporarily a small portion is a very good plan. By this time we have generally a few of the earliest D. Wardianums ready for ripening off, but they are of course late this season, and it will probably be another month before any are removed, which is a very good job. I never like to see this species make up its growths too early, in fact, the later the better. Early matured growth means early blooms, which, with D. Wardianum, generally spells deterioration, for new growth starts quickly after blooming while the weather is still wintry. The best way to save such plants from going quite wrong is to still retard growth as much as possible after blooming, and endeavour to make the new pseudobulbs finish later.

The beautiful Cattleya Warscewiczii will bloom this month. It is rather unfortunate that such a grand thing should have the character of being a shy bloomer, but it is undoubtedly truthful. Immediately after blooming, or, in cases where it does not intend to bloom, immediately the pseudobulbs are completed, it is best to remove this species also to an airy and sunny house, so that the growth may be well ripened and rested. Without this treatment I believe there are some varieties that may go on and on for ever, and never bloom. Some growers repot this species at this season, but, on the ground that a hard rest immediately following root disturbance can scarcely be given, I prefer to repot in early spring, when new growth takes place. C. Gaskelliana will also prove invaluable this month. This is a most easily grown and free-blooming species, and may be repotted immediately after flowering, when renewed root action takes place, or left till early spring, and this will apply also to another beautiful summer blooming kind, namely, C. Warneri.

Oncidium macranthum will also make a good show. This is truly a noble species when grown well and strong, in fact weakly plants ought never to be allowed to bloom, the flower spikes being of such an enormous length and the time so long before the blooms expand that nothing but a strong, healthy plant can successfully withstand the strain upon it. It is cool growing, and delights in an abundance of water, providing the compost is sweet, porous, and well drained. Other similar species, such as O. superbum, and O. zebrinum, require a like cool, moist treatment during the summer, but, like the majority of others known as Cool House sorts, are none the better for a too low temperature during the winter months.

Odontoglossum Schlieperianum is a rather pretty species for blooming at this season, but taking it on the whole it cannot be called a robust grower. O. Williamsianum is, I believe, very near to the above—in any case they are very much alike in bloom and growth. They are very handsome when strong spikes are produced, but those having two or three flowers are scarcely worth letting open, and are best if pinched off to encourage more vigour. I find they do best when treated as O. grande in Intermediate temperature. The seasons of growth are, however, different, and this point should be watched, and the treatment varied accordingly. O. Schlieperianum will start after blooming, and will not have completed growth until late in the winter, consequently more warmth during that period is required than for O. grande, which is fully made up and has bloomed by autumn.

Lælia præstans and L. Dayana will now advance very rapidly, and anything in the nature of re-panning may be done if required, and they will soon recover at this date. They are best when grown in Intermediate temperature and may henceforth be watered plentifully.

Cypripediums of the Stonei and Parishii group are now making a good show. I used to think that these two and others, such as C. Druryi, C. × Euryandrum, C. Lowii, C. Haynaldianum, and C. philippinense wanted the East Indian temperature to grow them really well, but find that they also do very well if grown Intermediate, as do also the Selenipediums usually recommended for stove treatment. One has to be a little careful sometimes with them during the winter when grown Intermediate, or through being wet and cold at the same time a peculiar black spot may appear at the base of the leaves.

Some of the Trichopilias are now out and very attractive. I think the most lovely species of this genus, however, is T. suavis, which has of course passed out of flower some two or three months ago. It is now forming new growth, and is best placed in the Intermediate or Cattleya House. It and others of this genus should be well attended to as regards keeping the roots in a sweet and healthy condition, and it is always best to be careful in the matter of watering, for over supplies at the root will often cause the pseudo-

bulbs to become badly spotted, and frequently entails the total loss of the plant. For this reason they are all really best grown in baskets and suspended. Another reason is that the flowers being short stemmed and drooping are better seen and appreciated if so grown. Peat two parts to one of moss I find to be a good compost. T. tortilis, T. marginata, T. lepida, and T. crispa are all good and well worth growing, and are more or less in bloom at this time of the year. T. (Pilumna) fragrans and T. nobilis are both lovely things, and similar in habit to the above, requiring exactly the same treatment.

Thunias will by this time have finished blooming, and should be removed to a sunny, airy house, so that any that have not bloomed may still grow, and at the same time get well ripened and hard, for Thunias will not bloom successfully next year without it. When well bloomed they are very graceful. Barkerias are also only worth seeing in bloom when grown well, and this cannot be done if shaded like most other Orchids. They like to be suspended in full sunshine, and copiously syringed when growing, and they are therefore good companions for the above.

Mormodes luxatum eburneum will bloom during the latter end of the month. Special care should be taken with it, as it is one of the most chaste and lovely of Orchids, and by no means common. When the flowers are past, it should at once commence its ripening or maturing process, which is facilitated by being suspended in a light, airy position, and water gradually reduced. It will hardly withstand the full rays of the sun just yet, until properly matured.

The earliest plants of the Disa grandiflora are now in bloom, and its beautiful flowers are always welcomed. Its culture is frequently not attempted at all because it has a reputation of doing badly; others give it up after trying and failing once. I would advise all to try again until they succeed. It is a most showy, and certainly a most useful, species if summer exhibition has to be done. The principal points to bear in mind in its cultivation are as follows:—A cool, moist, and shady house or pit during summer; plenty of water at the roots, but not too much, as is sometimes given. What potting or propagation requires to be done should be attended to between now and September, as the right conditions present themselves. The small side shoots should be used for propagating purposes. During winter a position in an ordinary greenhouse temperature should be accorded, and, although they should never become dry, they should be watered sparingly, giving only enough to keep the foliage green, and plump, and healthy. The general conditions of the Cool Orchid House, neither in winter nor summer, seem to suit them well, and very rarely indeed are they grown well there. The best soil is a sandy peat.

DUPLICATION OF NAMES.

Messrs. F. Sander & Co. write calling attention to a remark in our Review of their *Orchid Guide* (page 190). The remark is :—" We note that the hybrid between Cypripedium barbatum and bellatulum appears under six different names, and the record C. caudatum × leucorrhodum Miss H. A. Roebling, and in the very next line Mrs. W. A. Roebling, is a type of a kind of duplication that might have been avoided with advantage." Messrs. Sander observe that the duplication referred to was purposely included, and that practically all the hybrids mentioned in the *Guide* have been recorded in different gardening organs. The Mrs. W. A. Roebling is undoubtedly a misprint, but should the name be given without the parents how is any reader to know that it is a synonym. The same with the bellatulum crosses, no doubt all should be reduced to synonyms or varieties of C. × Charles Richman, but we could not well assume the right to do so." Our remarks were of course made simply in defence of a principle the validity of which Messrs. Sander admit, namely that hybrids between the same two species should be considered as forms of one. That it was not carried out in this case was pointed out as a matter for regret, simply because the same prominence is given to every recorded synonym as to the original name, and there is nothing to show which of them is the original name, a matter which in the absence of references the reader can scarcely carry out for himself. The bellatulum crosses mentioned have already been reduced, and the other case we have not been able to look up.

ORCHIDS IN "PEPPER-GARDENS."

ORCHID Houses in India are very unlike those with which we are familiar in Europe. Speaking of the time when Dr. (now Sir George) King, took charge of the Calcutta Botanic Garden, in 1864, the *Gardener's Chronicle* remarks :—" A few Orchids only (among them, however, some very fine ones, as Vanda teres and V. Roxburghii) will grow in the open at Calcutta ; but John Scott had found that many more would flourish in a Pepper-garden built in the native way, with an open roof of bamboo strips, which broke the direct force of the sun's rays, and kept the interior in a steaming heat. King developed these Pepper-Gardens ; he built them in general form resembling English greenhouses, the roofs of wire. In these many species of Orchids flourished, and, by degrees, a great variety of fine plants from the mountain jungles were added, till the Pepper-Gardens have become a principle feature of the Calcutta Garden."

ORCHIDS AT KEW,

SEVERAL striking rarities have recently flowered in the rich Kew collection. At the present time one of the finest is an example of the very rare Cymbidium Huttoni bearing a splendid spike of seventeen flowers, besides which the old Vanda Roxburghii is flowering well. Earlier in the season the handsome Moorea irrorata and Eulophiella Elisabethæ were in fine condition. A plant of Oncidium altissimum has produced two fine arching spikes of about six and eight feet long, perfectly wreathed with flowers. Eulophia Lubbersiana has prettily variegated leaves, and is an example of the numerous botanical species in flower. The new Orchid-houses seem to have fully justified the expectations formed of them, and the presence of so many botanical rarieties renders the collection exceptionally interesting.

DICTIONNAIRE ICONOGRAPHIQUE DES ORCHIDÉES.

THE May number of this interesting and useful little work has just reached us, and contains figures and descriptions of the following Orchids :—Calanthe vestita var. Stevensiana, Cattleya Eldorado var. Wallisii, C. × Hardyana var. alba, Cypripedium Swinburnei, Dendrobium barbatulum, D. Pierardi, Lælia flava var. aurantiaca, L. rubescens, Odontoglossum × crispo- Harryanum vars. amœnum and spectabile, O. × tentaculatum, Rodriguezia decora, Selenipedium caudatum var. Wallisii, and Vanda cœrulescens.

FALSE HYBRIDS.

A GOOD deal of attention has recently been paid to what have been called false hybrids, namely plants which seem to only reproduce the characters of one of the parents. We have just found what appears to be an early example of this phenomenon in the genus Calanthe :—

"I was much pleased to hear of Messrs. Veitch's new C. Sedeni, and congratulate them on their success. I myself four years ago fertilised a bloom of the C. Veitchii superba sent with C. vestita lutea and seed was produced, which I in good time sowed, and raised a number of seedlings. I looked to getting at least something distinct, and now, after waiting just four years since the cross was effected, three of the bulbs flower, and the results are the blooms sent. The strange thing is that C. Veitchii should produce the seed and the yellow and rose varieties of C. vestita should have been produced.—W. Swan in *Gard. Chron.*, 1878, x., p. 795."

It is difficult now to say what was the cause of the phenomena described, but as the seed parent was the C. × Veitchii the offspring ought to have been hybrids. Probably the plants were long ago lost sight of.

STANHOPEA LOWII.

THE genus Stanhopea is one of the most remarkable among Orchids, owing to the quaint structure of its flowers and the remarkable way in which they are often produced from the bottom of the basket in which the plant is grown. They are also usually large in size and striking in colour and markings, besides being very fragrant. Unfortunately they are usually rather short lived, for which reason they are less frequently met with in collections than would otherwise be the case. The species are rather numerous and widely diffused in Tropical America. The one here figured is S. Lowii, which was introduced from New Granada by Messrs. Hugh Low

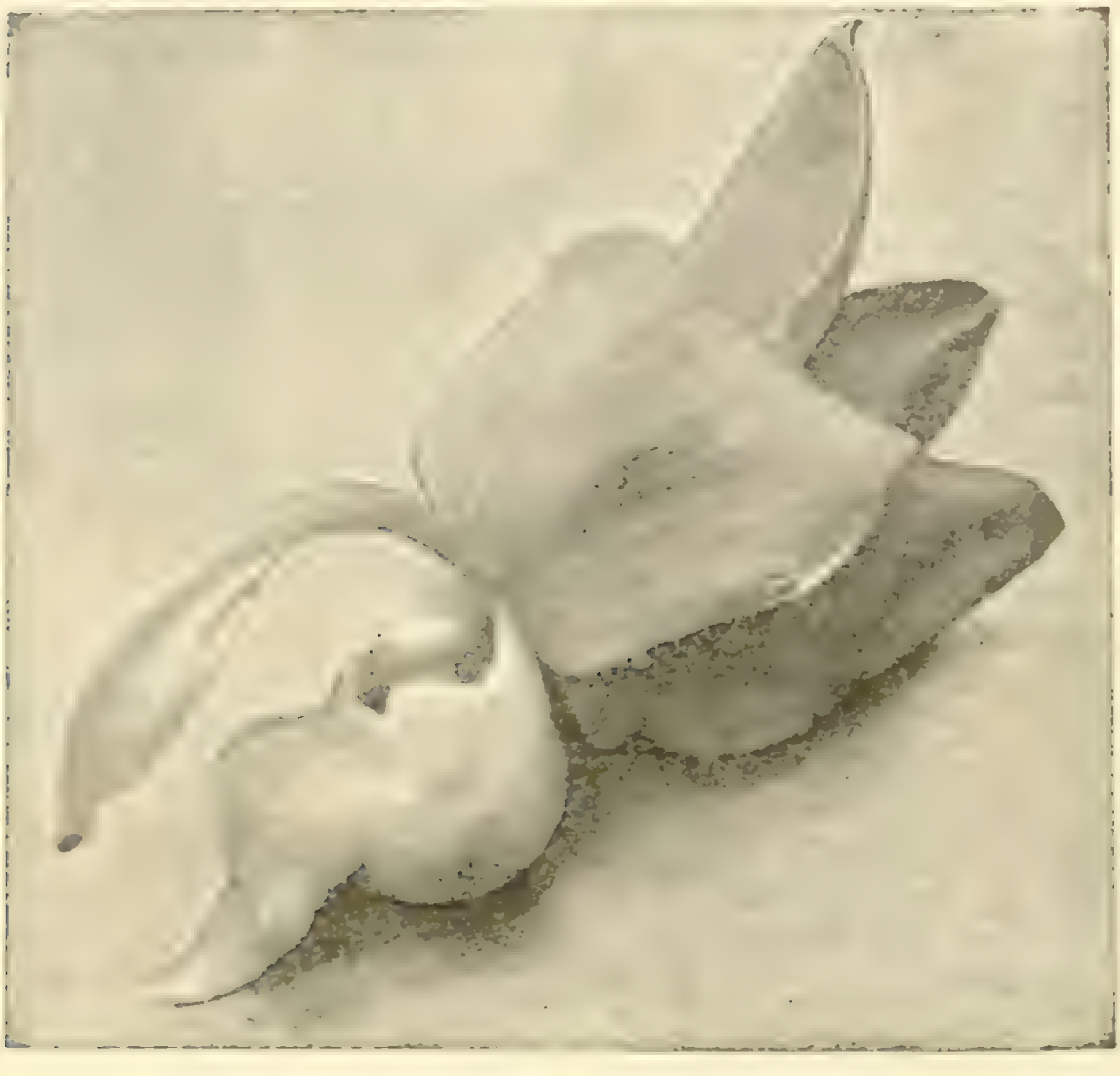

FIG. 31. STANHOPEA LOWII.

& Co., and flowered in their establishment in December, 1892, being shortly afterwards described (Rolfe in *Kew Bull.*, 1893, p. 63). It is technically allied to S. eburnea (figured at page 113 of our seventh volume) but differs greatly in the shape and details of the lip. The sepals and petals are light, creamy buff in colour with a few minute dots, and the lip ivory white. The flowers have a powerful Narcissus-like scent.

SOCIETIES.

ROYAL HORTICULTURAL.

A MEETING was held at the Drill Hall, Buckingham Gate, Westminster, on June 4th, when some very fine groups of Orchids were staged, but, contrary to the usual practice, they were arranged on various tables throughout the Hall. No less than nine Medals were given, together with three Awards of Merit, and one Cultural Commendation. There were present of the Orchid Committee:—H. J. Veitch, Esq., in the chair, and Messrs. H. Ballantine, H. J. Chapman, W. Cobb, De B. Crawshay, J. Douglas, E. Hill, H. Little, H. T. Pitt, H. M. Pollett, J. W. Potter, F. A. Rehder, T. Rochford, H. A. Tracy, W. H. Young, and J. O'Brien (Hon. Sec.).

Sir Frederick Wigan, Bart., Clare Lawn, East Sheen (gr. Mr. Young), was awarded a Silver-gilt Flora Medal for a fine group, containing Lælio-cattleya × Canhamiana, L.-c × Wiganiæ aurea, Cattleya Warneri, C. Mendelii, C. Mossiæ, C. M. Reineckiana, Lælia majalis, L. Digbyana, L. purpurata, L. tenebrosa, Aërides Fieldingii, Scuticaria Hadwenii, Miltonia vexillaria, M. v. alba, M. v. Constance Wigan, M. v. Empress Victoria Augusta, Odontoglossum crispum. Sobralia macrantha alba, Epidendrum Medusæ, E. atropurpureum, Cypripedium caudatum, Phalænopsis speciosa, and some Thunias.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), staged a fine group of plants, and was awarded a Silver-gilt Flora Medal. The group contained some fine Odontoglossum crispums, among others the magnificent O. c. Pittianum, one of the finest blotched crispums in existence, also O. × Andersonianum, O. citrosmum, Lælia tenebrosa, L. purpurata, L. × Latona, L. Digbyana, Miltonia vexillaria, Cattleya Schilleriana, and Cypripedium Stonei. An Award of Merit was given to Odontoglossum crispum punctatum Rosslyn variety, the flower being slightly tinged with rose and prettily dotted.

J. Colman, Esq., Gatton Park (gr. Mr. Bound), received a Silver Flora Medal for a nice group, containing Odontoglossum crispum and its varieties, O. × Andersonianum, O. cirrhosum, O. × mulus, Lælia purpurata, Cattleya Mossiæ, C. Mendelii, Miltonia vexillaria, Oncidium concolor, Vanda tricolor planilabris, and some scarlet Masdevallias.

H. F. Simonds, Esq., Beckenham (gr. Mr. Day), was awarded a Silver Flora Medal for a good group, containing some fine Lælia purpurata, Miltonia vexillaria, Cattleya Mendelii, C. Mossiæ, Odontoglossum crispum, O. Pescatorei, O. nebulosum, and a lot of Oncidium concolor.

A. H. Smee, Esq., The Grange, Carshalton (gr. Mr. Humphreys), staged a nice group, consisting chiefly of fine varieties of Cattleya Mendelii and C. Mossiæ, together with Lælia purpurata, L. × cinnabrosa, Cattleya

Skinneri, C. S. alba, C. Schilleriana, C. Curtisii, and C. × Œnone. A Silver Flora Medal was awarded.

T. Baxter, Esq., Oakfield, Morecambe (gr. Mr. Roberts), showed two good forms of Odontoglossum crispum, and O. × loochristiense Lord Milner, the latter receiving an Award of Merit. The flower was large and well-shaped, having the sepals and petals cream-coloured tinged with bright yellow at the apex and margins, and heavily blotched with brown, and the lip with a large blotch in front of the crest.

R. H. Murray, Esq., Springfield, Great Barlow (gr. Mr. Blackmore), received a Cultural Commendation for a magnificent specimen of Dendrobium thyrsiflorum, with a great number of flower spikes.

De B. Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), showed Odontoglossum crispum rosefieldense, with a well-formed, white flower spotted with dark purple.

H. Little, Esq., The Barons, E. Twickenham (gr. Mr. Howard), exhibited two fine, dark coloured varieties of Lælia purpurata.

R. I. Measures, Esq., Camberwell (gr. Mr. Chapman), showed Miltonia vexillaria Cambridge Lodge variety, in which the petals are lip-like in character, and the sepals have also some lip-like markings.

The Hon. Walter Rothschild, Tring Park, showed Lælia × cinnabrosa and L. × Latona, with reddish orange sepals and petals, and a dark purple lip.

G. Wilson, Esq., Mayfield, Streatham Hill, showed a good Lælia × cinnabrosa.

Messrs. J. Veitch & Sons, Chelsea, were awarded a Silver Flora Medal for a fine group, containing Lælio-cattleya × Canhamiana, L.-c. × C. alba, L.-c. × Aphrodite, L.-c. × A. alba, L.-c. × Hippolyta, Cattleya × calummata, Lælia × Latona, Phalænopsis × Mrs. J. H. Veitch, Spathoglottis × aureo-Veillardii, Epicattleya × radico-Bowringiana, Anguloa Clowesii, Cypripedium × Urania (Io grande × Charlesworthii), Angræcum modestum, Epidendrum falcatum, and others.

Messrs. H. Low & Co., Bush Hill Park, Enfield, received a Silver Flora Medal for a good group, consisting chiefly of Cattleya Mossiæ, together with Dendrobium Lowianum, D. Falconeri, D. F. lilacina, Lælia purpurata, and Lælio-cattleya × Herga (L.-c. × elegans Turneri × C. Gaskelliana).

Messrs. Stanley, Ashton & Co., Southgate, staged a fine group of Cattleya Mossiæ, several of the plants bearing from forty to fifty flowers. A Silver Flora Medal was awarded. The best varieties were:—C. M. Alice Nugent, a large, richly coloured form, and C. M. Mrs. F. W. Ashton. The latter, which received an Award of Merit, had a large, white, well-shaped flower, with a pink blotch in front of the light yellow disc. There were also some very fine Lælia purpurata.

Messrs. B. S. Williams & Sons, Upper Holloway, received a Silver Banksian Medal for a nice group, containing Cattleya Mossiæ, C. Mendelii, Lælia purpurata, Trichopilia crispa, Platyclinis latifolia, Odontoglossum luteopurpureum, O. crispum, Oncidium sarcodes, O. Marshallianum, Cypripedium exul, Dendrobium Calceolus, Thunia Marshalliana, and T. × Wrigleyana.

Mr. J. Crook, Ford Abbey Gardens, Chard, sent some fine spikes of Vanda teres, grown in a Cucumber house.

Mr. P. W. Hooley, Bitterne Park, Southampton, sent the fine natural hybrid Lælio-cattleya × Gottoiana.

AT the meeting held on June 18th there were very few Orchids shown, and only two awards were made. The Orchid Committee were represented by: H. J. Veitch, Esq., in the chair, and Messrs. H. Ballantine, H. J. Chapman, De B. Crawshay, J. Douglas, E. Hill, H. Little, H. T. Pitt, H. M. Pollett, J. W. Potter, F. A. Rehder, H. A. Tracy, W. H. Young, and J. O'Brien (Hon. Sec.)

F. Hardy, Esq., Tyntesfield, Ashton-on-Mersey, showed Cypripedium Lawrenceanum nigrum, four plants of C. × Gowerianum magnificum. and Sophro-cattleya × George Hardy. An Award of Merit was given to a fine variety of the latter called Tyntesfield variety.

J. Bradshaw, Esq., The Grange, Southgate, N. (gr. Mr. Whitehead), exhibited a fine form of Lælia-cattleya × C. G. Roebling.

J. G. Fowler, Esq., Glebelands, S. Woodford (gr. Mr. Davis), showed a fine plant of Cypripedium callosum Sanderæ, with four flowers.

C. J. Lucas, Esq., Warnham Court, Horsham (gr. Mr. Duncan), sent Odontoglossum × Lucasianum, a reputed natural hybrid between O. cristatellum and O. Hallii. It most resembled a small form of the latter, with the crest rather less developed and the markings more chocolate in colour.

A. H. Smee, Esq., The Grange, Hackbridge (gr. Mr. Humphreys), sent Pholidota obovata, a member of the articulata group.

R. Young, Esq., Fringilla, Linnet Lane, Sefton Park, Liverpool (gr. Mr. Poyntz), sent flowers of Cypripedium × Kerchoveanum (Curtisii × barbatum), C. × superciliare, and C. × Ganymedes (tonsum ♀ × œnanthum superbum ♂) a finely formed and well-coloured flower, C. × Carnusianum, and Odontoglossum gloriosum albidulum.

Mr. A. J. Keeling, High View Nursery, Cottingley, Bingley, showed Lælia × Diana (Dayana × purpurata rosea), a beautiful, richly coloured hybrid, which is described on page 197; the beautiful Masdevallia × falcata (Veitchiana × Lindenil), Lælia tenebrosa, the violet-blue Dendrobium Victoria Regina, and Miltonia flavescens.

Messrs. B. S. Williams & Son, Upper Holloway, N., received a Silver Banksian Medal for a nice group, containing Lælio-cattleya × Canhamiana, L.-c. × C. Edouard André, Lælia tenebrosa, L. × cinnabrosa, Cypripedium exul, C. × superciliare, C. superbiens, C. Mastersianum, Anguloa Clowesii, Dendrobium Dalhousianum luteum, Platyclinis latifolia, Oncidium curtum, and Odontoglossum Pescatorei.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

A MEETING of this Society was held at the Coal Exchange, Manchester, on June 6th, when there was a fine display of Orchids, and twenty awards of various kinds were made by the Committee.

H. T. Pitt, Esq., Stamford Hill, London (gr. Mr. Thurgood), sent Odontoglossum crispum Pittianum, a magnificent spotted form, in fine condition, which received both the award of a First-class Certificate and a Gold Medal.

T. Baxter, Esq., Morecambe (gr. Mr. Roberts), received a Bronze Medal for a small group, also a First-class Certificate for Odontoglossum × loochristiense var. Lord Milner.

J. Leemann, Esq., Heaton Mersey (gr. Mr. Edge), staged a choice group, which gained a Silver-gilt Medal, and an Award of Merit was given to Cattleya Skinneri Temple's var.

O. O. Wrigley, Esq., Bridge Hall, Bury (gr. Mr. Rogers), staged a fine group of Orchids, which received a Silver Medal.

W. Bolton, Esq., Wilderspool, staged a good group which was awarded a Vote of Thanks. Awards of Merit were given to Cattleya Mendelii var. Edward VII, C. M. Bolton's var., and C. M. Holtianum.

Captain G. W. Law-Schofield, Rawtenstall (gr. Mr. Shill), received an Award of Merit for Cypripedium × Shillianum magnificum, and a Cultural Certificate for a beautiful example of C. callosum Sanderæ with five flowers.

H. H. Bolton, Esq., Newchurch, received an Award of Merit for Odontoglossum crispum xanthotes.

T. Statter, Esq., Whitefield, received an Award of Merit for the rare and handsome Batemannia Burtii.

The Hon. Mrs. Bass, Burton-on-Trent (gr. Mr. Nisbet), received a Cultural Certificate for Odontoglosssm crispum Nisbet's var.

Messrs. F. Sander & Co., St. Albans, received a Bronze Medal for a good group of Orchids.

Messrs. John Cowan & Co., Gateacre, staged a nice group of Orchids, and received a Vote of Thanks.

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, also received a Vote of Thanks for a group of showy Orchids.

Messrs. Stanley, Ashton & Co., Southgate, received an Award of Merit for Cattleya Mossiæ var. Shamrock II.

We regret to find that two errors were included in our last report.

Odontoglossum × Adrianæ Countess Grey, recorded at page 188 as exhibited by H. H. Bolton, Esq., was from Captain Holford, Westonbirt, Tetbury (gr. Mr. A. Chapman), and flowered for the first time in this collection.

Cattleya Skinneri albens Keeling's var. is the name under which Mr. A. J. Keeling's Cattleya was shown, and the plant received a First-class Certificate, not an Award of Merit, as recorded at page 189. It is not quite pure white.

NOTES.

Two meetings of the Royal Horticultural Society will be held at the Drill Hall, Buckingham Gate, Westminster, during July, on the 2nd and 30th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon. The former meeting is held in conjunction with the National Rose Society, and it is announced that "with the exception of Plants, &c., shown for Certificate, no other plants or groups, &c., except roses may be exhibited."

The meeting on July 16th will be held at the Society's Gardens, Chiswick, in connection with a Conference on Lilies. The Orchid Committee (and others) will meet at 11 a.m., and there will be a luncheon at 1 p.m., before the Conference.

The Manchester and North of England Orchid Society will hold a meeting at the Coal Exchange, Manchester, on July 18th, when the Orchid Committee will meet at 12 o'clock, noon. No meeting will be held during August.

A flower of the remarkable Odontoglossum crispum Lady Jane, which was described at p. 277 of our last volume, is sent from the collection of J. Wilson Potter, Esq,, of Croydon. It is interesting to find that it has retained its remarkable character, though it has greatly improved in form, substance, and markings, and now measures $3\frac{3}{4}$ inches across its broadest diameter. The brown spots are more or less confluent into lines, and are confined to the petals and the margin of the lip, giving the flower a very striking appearance. Mr. Young remarks that on its appearance last year it was feared that it might prove to be an accidental sport, and would not flower true on the next occasion, but all doubts about its permanence may now be set at rest.

It is interesting to note that Lælio-cattleya × Schilleriana has again

been produced artificially. It was raised by Messrs. Cappe et fils, Vésinet, France, from Cattleya intermedia crossed with the pollen of Lælia purpurata, and has now flowered for the first time, producing a spike of four flowers—one of which is sent, and proves quite typical in character. Two of the seven bulbs are diphyllous and the rest monophyllous. It promises to be a fine thing when the plant becomes stronger. This makes the third time that the parentage of this fine natural hybrid has been proved artificially, and perhaps the day may come when it will be easier to raise it by hand than to import it, especially as there would be the further advantage that the finest forms of the two species could be selected as parents.

A curious form of Cattleya Mendelii is sent from the collection of Sir Trevor Lawrence, Bart., Burford, Dorking, by Mr. White. It is an imported plant, which may account for the front lobe of the lip being small and narrow, though rich in colour. The sepals and petals are of a pretty blush pink, and the inflorescence is three-flowered. It appears to be simply undeveloped at present, but this point must be left to the next time of flowering.

A fine spike of Odontoglossum Kegeljani (polyxanthum), has been grown in the collection of W. Younger, Esq., Ravenswood, Melrose, by Mr. W. Yea, gardener. It bears twenty flowers, of which eight are borne in pairs on side-branches below the others, and is a splendid example of good culture. A figure is given in a recent issue of the *Gardening World* (p. 589).

A plant of Cattleya Mendelii in the collection of J. W. Arkle, Esq., West Derby, Liverpool, has produced a very curious flower having only two sepals and two lips, which are placed in two opposite pairs, the lips infolding each other, with a short, abortive column in the centre. A normal flower sent, on the same inflorescence, has blush pink sepals and petals with a few irregular, darker streaks. The other flowers on the plant are said to be normal.

This species seems particularly liable to produce abnormal flowers. A remarkable trimerous form was figured at page 241 of our seventh volume, and there is the well-known C. Mendelii var. Janus, of which three peculiar flowers are again sent by Captain C. C. Hurst, Burbage Grove, Hinckley. One has a single petal missing, another is reduced to the pair of lateral sepals, the lip, and a one-sided column, while the third has one petal and one sepal opposite to it, with a short filament between where the column should be, the ovary being reduced to a thin pedicle. It certainly deserves its name. A flower of Cattleya Mossiæ having the dorsal united to the back of the column and much undulated, is also sent from the same

collection. The latter character arises from the fact that the sepal cannot elongate, owing to its being firmly fixed to the back of the column. The sepals and petals are also somewhat marbled.

A flower of a plant which was purchased as a hybrid between Lælia cinnabarina and Cattleya citrina, together with a painting of the whole plant, is sent from the collection of E. F. Clark, Esq., of Teignmouth, but it appears to be simply a seedling of Lælia cinnabarina, for there is not a single character that can be traced to the influence of C. citrina, and we should suggest that the cross failed to take. It would be interesting if the raiser would give us the exact history of the plant. A very richly coloured form of Lælia × Latona and a good flower of Cattleya amethystoglossa are also sent, the former being a seedling ("purpurata × cinnabarina") from the Selly Hill sale.

A very fine flower of Dendrobium pulchellum (Dalhousianum), is sent from the collection of Dr. C. Eastwick-Field, Midhurst, Sussex. The plant was sent home from Upper Burma by Captain Karl Scharheb, of the Indian Staff Corps, and is bearing 140 flowers, producing a fine effect, the petals measuring $2\frac{1}{4}$ inches long. Some other plants were sent home at the same time, but the flowers were not equal in size to the one just mentioned.

Another curious flower of C. Mendelii is sent from the collection of H. H. Noble, Esq., Ivy Bank, Aigburth, Liverpool. It has only two petals, two opposite sepals, and a laterally flattened column. It is from an imported plant, obtained from Messrs. John Cowan & Co., and is the only flower at present produced. Next year may witness some new development.

J. Newell, Orchid grower for H. H. Hunnewell, Esq., Wellesley, Mass., succeeds Mr. Donald as gardener to Jason S. Bailey, Esq., West Roxbury Mass.—*American Gardening.*

A very fine flower of Lælia tenebrosa is sent from the collection of Isaac Carr, Esq., Twerton-on-Avon, near Bath. The petals measure $4\frac{1}{4}$ inches long, and every part of the flower is correspondingly well developed, and the colour good.

An illustration of the fine group of seedling Orchids exhibited by M. Charles Maron at a recent meeting of the Societé Nationale d'Horticulture is given in the *Revue Horticole* for June 16th (page 282, fig. 160).

A fine showy hybrid is sent from the collection of H. J. Ross, Esq., Florence, Italy, which is thought to have been obtained from Paphiopedilum × Harrisianum and P. Druryi. It most resembles the former, with the addition of a dark band along the centre of the dorsal sepal and petals.

ORCHID PORTRAITS.

CALANTHE MADAGASCARIENSIS, Rolfe.—*Bot. Mag.*, t. 7780.

CYPRIPEDIUM GUTTATUM.—*Gard. Mag.*, 1901, p. 372, with fig.; *Garden*, 1901, lix., p. 467, with fig.

DENDROBIUM FINDLAYANUM ROSEUM.—*Gard. Mag.*, 1901, pp. 372, 373, with fig.

DENDROBIUM NOBILE ASHWORTHIANUM.—*Journ. of Hort.*, 1898, xxxvi., p. 299, fig. 60.

DENDROBIUM THYRSIFLORUM (with contracted lip).—*Gard. Chron.*, 1901, xxix., p. 371, fig. 139.

LÆLIA TENEBROSA (abnormal).—*Gard. Chron.*, 1901, xxix., p. 371, fig. 138.

ODONTOGLOSSUM CRISPUM ANNIE.—*Gard. Chron.*, 1901, xxix., p. 365, fig. 137; *Journ. of Hort.*, 1901, xlii., p. 515, with fig. VAR. CAPTAIN HOCKEN.—*Gard. Mag.*, 1901, p. 340, with fig. VAR. PITTIANUM.—*Garden*, 1901, lix., p. 439, with fig.

ODONTOGLOSSUM ROSSII VAR.—*Journ. of Hort.*, 1901, xlii., p. 473, with fig.

ODONTOGLOSSUM × WILCKEANUM GOLDEN QUEEN.—*Journ. of Hort.*, 1901, xlii., p. 493, with fig.

PHAIO-CALANTHE × SCHRŒDERIANA.—*Gard. Mag.*, 1901, p. 387, with fig.

PHALÆNOPSIS AMABILIS VAR. RIMESTADIANA.—*Lindenia*, t. 736.

PHALÆNOPSIS SCHILLERIANA.—*Journ. of Hort.*, 1901, xlii, p. 451, with fig.

PHALÆNOPSIS VIOLACEA.—*Journ. of Hort.*, 1901, xlii., p. 537, with fig.

RESTREPIA ANTENNIFERA. — *Gard. Mag.*, 1901, p. 288, with fig. R. GUTTATA.—*Gard. Mag.*, 1901, p. 288, with fig. R. LANSBERGII.—*Gard. Mag.*, 1901, p. 288, with fig. R. LEOPARDINA.—*Gard. Mag.*, 1901, p. 288, with fig. R. STRIATA.—*Gard. Mag.*, 1901, p. 288, with fig.

SOBRALIA × VEITCHII.—*Lindenia*, t. 740.

CORRESPONDENCE, &c.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they may have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.)

S. G. L. The seedlings, "Dendrobium nobile × Hildebrandii," will belong to D. × Ellisii, and "Lælia purpurata × Boothiana" to Lælia × pulcherrima.

E. C. P. A form of Odontoglossum × Adrianæ.

D. M. G. Dendrobium transparens. The other flower is abnormal, and will be examined more in detail.

Photographs received with thanks. J. W. A.

Received. T. A., E. A. O. (next month), J. E. R.

Some notes are again held over owing to want of space.

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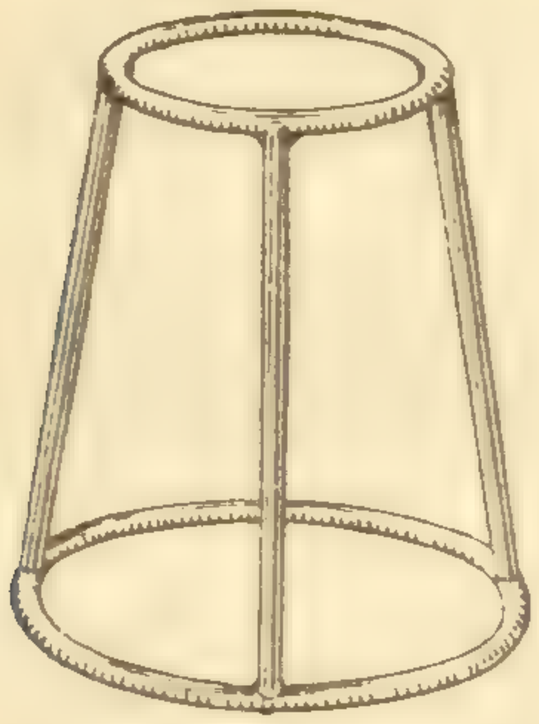

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THE ORCHID REVIEW:

An Illustrated Monthly Journal,

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THE ORCHID REVIEW.

VOL. IX.] *AUGUST*, 1901. [No. 104.

DIES ORCHIDIANI.

A CASE of great importance, both to Amateurs and Nurserymen, has just been heard in the Law Courts. It was an action for breach of warranty, a plant having been sold from a painting warranted to give a true idea of the variety, but when the flowers appeared they proved to be something different, and the case ultimately came into the courts for settlement. No doubt the case will be reported in your pages, and I do not propose to go into details, beyond noting the fact that it has been decided that damages can be recovered in the case of breach of warranty, in addition to the price paid for the warranted article.

This, it may be remembered, was the chief point in dispute in the memorable case of Ashworth v. Wells, which was reported in detail in your sixth volume (pp. 50-52, 77-81.) In that case, a plant called "Cattleya Aclandiæ alba, seven bulbs, three leaves, only known plant," was sold by auction for the sum of twenty guineas, but which, after the trouble and expense of cultivation for two years, proved to be an ordinary form of the species, worth about 7s. 6d. An action was accordingly brought for breach of warranty, damages to the extent of £50 being claimed, which was met by the payment into court of the price paid for the plant, with some small additional sum representing 5 per cent. interest on the purchase money and the court fees, whereupon the County Court Judge decided in favour of the defendant. This judgment was reversed on appeal by Justices Day and Lawrence, and was then carried to the Court of Appeal, before Lords Justices A. L. Smith, Chitty, and Collins, who dismissed the appeal, and gave judgment for the plaintiff for the sum of £50, with costs, together with the costs of the Court below and of the original trial.

In that case a good deal was made of the fact that no white form

of Cattleya Aclandiæ was known, and that some of those present at the auction refrained from bidding because they had no faith in the warranty; otherwise it would have fetched much more. But the Court of Appeal decided that the plaintiff was entitled to rely upon the warranty, and as evidence had been taken to show that if it had flowered white it would have been worth at least 100 guineas, their finding was for the amount claimed. The recent case seems to confirm this decision.

I see another little contribution to the question of Orchid Nomenclature at page 199, aud it shows one of the difficulties which beset the subject. Names are often given just for private purposes, but such names often get recorded in various ways, and thus become as it were public property, when unfortunately it is sometimes discovered that other people are growing the same things under other names, and thus confusion is introduced. And this naming of individual plants as one chooses, "while they are in his own house," often leads to the use of names which are not in accordance with rule, but they get recorded just the same, and whatever may be said as to individual rights in the matter, it cannot be denied that it leads to a great deal of confusion. Whether the advocates of having a Central Authority for the naming of Orchids recognize all the difficulties in the way of realizing their wishes is, perhaps, open to question, but there can be no doubt that the particular practice to which allusion is made is one of the most potent causes of confusion in nomenclature. Mr. Le Moyne, however, asks a very pertinent question, which can easily be answered in the affirmative. The difficulty is, that it scarcely carries us any further.

As I write, I notice that the *Gardeners' Magazine* figures a plant under the name of "Cattleya Miss Harris var. E. Ashworth," which it alludes to as a "somewhat lengthy and incongruous name." It might have been added also that it is not according to rule, and consequently does not qualify for inclusion in a list where "only names are cited which agree in form, at any rate, with the usual binomial nomenclature" (see remarks at page 98 of your last volume). The fact is this hybrid was derived from C. Mossiæ and C. Schilleriana, and, according to the R.H.S. Rules of Nomenclature, ought to have been called Cattleya × Harrisiæ, which would have been correct, would have qualified the plant for inclusion in the list of New Garden Plants, and would have permitted the addition of a suitable varietal name whenever necessary, without a charge of incongruity being made. I therefore propose that the plant be known by the amended name of C. × Harrisiæ in future, so as to avoid all ambiguity.

The same question crops up in the discussion respecting duplication of

names at page 214, and it may be remembered that some time ago I proposed that all hybrids between Paphiopedilum barbatum and bellatulum shall be known by the amended name of P. × Richmanii. There is really no other way out of the difficulty; if we are to secure uniformity and consistency in nomenclature we must insist upon the right of amending names which do not conform to the rules.

The notes on Orchid-growing in India and Australia given in your last issue are interesting, and show how the taste for these beautiful plants is spreading, and how difficulties attendant upon local climate and circumstances are overcome. The photograph of Lælia crispa at page 201 shows that this plant can be grown as well in Australia as in England, and perhaps as well as in its native home, if its requirements can be complied with, and of course this is the secret of all successful cultivation.

The question of "False Hybrids" crops up again at pages 215 and 223, and it would be interesting to know the secret of some of these apparent failures. Cattleya citrina has been successfully crossed with C. intermedia and with Lælio-cattleya × elegans, so that there does not appear to be any particular reason why it should not also cross with Lælia cinnabarina, and it would be interesting to try the cross again. The case of Calanthe × Veitchii producing seedlings identical with the yellow- and red-eyed forms of C. vestita seems inexplicable, and suggests the question whether some mistake may not have been made, especially as subsequent results have proved different. There are two or three other analagous cases, however, where such a suggestion does not seem possible, and I should like to see the subject carefully investigated.

Long ago I suggested that the case of *Zygopetalum* crossed with Odontoglossum should be carried further, by recrossing the "False Hybrid" result with Odontoglossum, and it would be interesting to know if the experiment has been attempted.

Cases of the prepotency of one parent are now familiar, a noteworthy example being Epiphronitis × Veitchii, where the influence of the Epidendrum parent has almost obliterated the characteristic habit and structure of the Sophronitis, and yet the latter was the seed-bearer. If the case of *Zygopetalum* crossed with Odontoglossum is due to the prepotency of one parent it would be interesting to try the effect of making the Odontoglossum the seed-bearer. The question should be cleared up.

ARGUS.

THE HISTORY OF ORCHID CULTIVATION.

(*Continued from page* 168).

OUR last paper brought us down to the end of 1837, the *annus mirabilis* of Orchidology, and we may mention that this year saw the commencement of Mr. Bateman's big book before alluded to, as the first plate, Oncidium leucochilum, bears the date July, 1837. This remarkable work is unique in its way, and is long likely to remain so. The bound volume measures nearly $2\frac{1}{2}$ feet long by over $1\frac{3}{4}$ feet wide, and its ponderous size is amusingly caricatured by George Cruikshank at the end of the introduction, where a number of men are making a more or less successful attempt to move it with ropes and pulley. The work contains forty plates, representing as many species, life size, with appropriate descriptions, and an essay on the "Culture of Tropical Orchidaceæ" as then practised, with plans of the epiphyte houses in the gardens of Sigismund Rucker, Esq., of Wandsworth, and of the Rev. John Clowes, Broughton Hall, Manchester, together with the sketch of the interior of the epiphyte house at Knypersley. The work was not completed until 1843 and was dedicated to Her Most Gracious Majesty, Queen Adelaide. Many of the plants were new, those described here for the first time being :—Barkeria Lindleyana and B. spectabilis, Brassavola glauca (now Lælia), Cattleya Skinneri, Cycnoches ventricosum and Egertonianum, Cyrtochilum bictoniense (now Odontoglossum), Epidendrum alatum, aloifolium, aromaticum, erubescens, and Stamfordianum, Odontoglossum hastatum (now Oncidium), Oncidium Cavendishianum, Insleayi (now Odontoglossum), and leucochilum, Peristeria Barkeri (now Acineta), Sobralia decora, Stanhopea saccata and tigrina. Several others were also figured here for the first time.

The introduction of the beautiful Sobralia macrantha is thus described (t. 37) :—Although repeatedly gathered by botanical collectors, it was never introduced into this country until 1841, when through the care and exertions of Mr. Hartweg and Mr. Skinner, a few plants survived the hitherto fatal ordeal of the voyage. Placed in a moist heat, and treated like Bletia or Phaius, these plants were found to thrive amazingly, and from one of them, which flowered in the garden of the Horticultural Society, Miss Drake was permitted to prepare the accompanying plate. The splendour of the subject speaks for itself.

The name of Mr. Skinner figures very prominently in this work as an introducer of novelties, and under Cattleya Skinneri (t. 13) is a very interesting account of how, when Guatemala was a *terra incognita* to the admirers of Orchidaceæ, Mr. Bateman heard accidentally that some insects had been received in Manchester from a gentleman of the name of Skinner, the owner of extensive estates in Guatemala, and the partner in a flourishing

mercantile firm in the same country. He therefore addressed a letter to Mr. Skinner, craving his assistance, and received an unexpectedly favourable reply. "From the moment he received our letter," remarks Bateman, "he has laboured almost incessantly to drag from their hiding places the forest treasures of Guatemala, and transfer them to the stoves of his native land. In pursuit of this object there is scarcely a sacrifice which he has not made, or a danger or hardship which he has not braved, ... he has never suffered an opportunity to escape him of adding to the long array of his botanical discoveries. And, assuredly, he has not laboured in vain, for he may truly be said to have been the means of introducing a greater number of new and beautiful Orchidaceæ into Europe than any one individual of his own or any other nation."

The last plate in the work (t. 40) is a most remarkable one, showing what ought to have been the purple male flowers and green female flowers of Cycnoches Egertonianum on the same pseudobulb, though the latter for some reason are represented with the long slender column of the male flower of C. ventricosum, and it has been suggested that this arose through the flowers having been withered when drawn, and having been restored by the artist with the help of a previous drawing. At all events both kinds of flowers are now well known, and the history of the question has been recorded in detail. (Rolfe in *Orch. Rev.*, iii., pp. 233-236, and vi, pp. 57-58).

Another important work commenced in 1837, namely Lindley's *Sertum Orchidaceum*; a wreath of the most beautiful Orchidaceous Flowers, the first plate of which, Stanhopea devoniensis, is dated September, 1837. It is *folio* in size, and contains 49 plates with a frontispiece, the whole representing sixty-one species, and the work is dedicated to the most noble William Spencer Cavendish, Duke of Devonshire. A good many of the species figured had already been described, but among novelties we may mention the Brazilian Lælia cinnabarina (t. 28), which was introduced by and flowered with Mr. Young, of Epsom; Aërides quinquevulnera (t. 30), introduced by Cuming from the Philippines and flowered with Messrs. Loddiges; Stanhopea Wardii (t. 20), sent from Venezuela by Mr. Ward, and flowered with Messrs. Loddiges; and the remarkable Huntleya violacea, now referred to Bollea, sent from Guiana to the same firm.

The first number of this work contained some excellent directions for the cultivation of Orchids, drawn up by Mr. Paxton, of whom Lindley remarked:—"The success with which epiphytes are cultivated by Mr. Paxton is wonderful, and the climate in which this is effected, instead of being so hot and damp that the plants can only be seen with as much peril as if one had to visit them in an Indian jungle, is as mild and delightful as that of Madeira. As a luxuriance of growth, never have they been seen in their native woods in such perfect beauty."

The *Floral Cabinet* of Messrs. Knowles and Westcott also commenced in 1837, and the frontispiece to the first volume contains coloured figures of Cattleya labiata, Cycnoches Loddigesii and Miltonia spectabilis, the latter plant being figured and described at page 93 as Macrochilus Fryanus, from a plant received from Brazil by the Birmingham Botanical and Horticultural Society in the autumn of 1835.

The *Botanical Register* for 1838 appeared in a somewhat enlarged form, with the addition of several pages of Miscellaneous Notices at the end of each number, these being paged consecutively and placed at the end of the volume in binding it. About 125 of the notices in this volume relate to Orchids, a considerable proportion being descriptions of new species, and of these we may mention a few of the more remarkable. Epidendrum rhizophorum, Bateman (p. 8), sent from Guatemala by Mr. Skinner, afterwards proved to be identical with E. radicans, then only known from dried specimens; E. aurantiacum, Batem., from the same country, is now known as Cattleya aurantiaca; and E. tibicinis, Batem., collected in Honduras by Mr. Skinner, is the well-known Schomburgkia tibicinis. Huntleya Meleagris (p. 19), previously only known from a drawing, flowered with Messrs. Rollisson, of Tooting. Miltonia candida (p. 22) flowered with Messrs. Loddiges. Calanthe furcata was introduced from the Philippines by Cuming, and flowered with Mr. Bateman. It is interesting as one of the parents of C. × Dominii, the first artificial hybrid raised, but has long been lost to cultivation. Vanilla bicolor was imported from Guiana, and flowered freely with Messrs. Loddiges, but still little further is known about it. Masdevallia infracta (p. 40), previously known from dried specimens, was introduced from Brazil, and flowered with Messrs. Loddiges, being probably the first Masdevallia in cultivation. Grammatophyllum multiflorum (p. 46), was sent from the Philippines by Cuming and flowered with Mr. Bateman. Epidendrum imosmum (p. 49) flowered with Messrs. Loddiges, and Lindley remarked:—"The western world wants no violets where this charming plant is found, for it fills the air with a fragrance as delicate and delicious as that of our favourite wild flower." Odontoglossum cordatum (p. 50), flowered for the first time with Mr. George Barker, who imported it from Mexico. Paxtonia rosea (p. 61, t. 60), was sent from the Philippines by Cuming, and flowered at Chatsworth, being dedicated to Mr. Paxton, "whose claim" it was remarked "to be permanently associated with Orchidaceæ will be readily admitted by all who know anything of the admirable collection of such plants at Chatsworth." Alas for the sentiment, the plant afterwards proved to be a peloriate state of Spathoglottis plicata. Satyrium candidum is a fragrant, white-flowered species which flowered with Sir John Herschel, who brought it from the Cape. Lastly, as the fruit of Mr. Gibson's industry in the Khasia Hills, must be added the beautiful

Dendrobium formosum, Cœlogyne Wallichiana, now known as Pleione, and two or three others.

Several interesting species were also figured in the same volume, Cattleya Perrinii (t. 2), now known as Lælia, flowered with Mr. Knight, of Chelsea, but Lindley remarked that he been acquainted with it for some years, it having been sent from the collection of Richard Harrison, Esq., and afterwards from Mr. Bateman. It was dedicated to Mr. Perrin, "Mr. Harrison's intelligent gardener, under whose care so many fine South American epiphytes have been for the first time brought into flower in this country." This year also witnessed the first introduction of a Phalænopsis, and the commencement of an error the effect of which is felt to some extent at the present day. A Phalænopsis was sent from the Philippines by Cuming, and flowered for the first time with Messrs. Rollisson, of Tooting. In the belief that it was the Malayan species already known from dried specimens, Lindley figured it as P. amabilis (t. 34), and afterwards, when the true Malayan plant came home, he failed to detect his own error, and re-named the old plant P. grandiflora. The Philippine plant is now properly known as P. Aphrodite. Other interesting plants which we may mention are Comparettia coccinea (t. 68), which flowered with Messrs. Loddiges; Stenia pallida (t. 20), which flowered with Mr. Barker, of Birmingham; and Stanhopea quadricornis (t. 5), from the collection of S. Rucker, Esq., of Wandsworth.

The corresponding volume of the *Botanical Magazine* (its title page is dated February 1st, 1839) contains a few novelties, and among them the splendid Cattleya Mossiæ (t. 3669), of which it is remarked:—"We wish our plate could do justice to this most magnificent of all Orchideous plants. . . . I am indebted to the kindness of Mrs. Moss, of Otterspool, near Liverpool, for the noble specimen here figured, which was accompanied with a folio sketch of the entire plant from her pencil: and I know of no name more appropriate for it, as suggested by my friend, Mr. Parker, than that of the lady in whose stove it has, by the care of her skilful gardener, been brought to such high perfection. . . . The present plant was introduced through the medium of George Green, Esq., of Liverpool, in September, 1836, from La Guayra." Oncidium Forbesii (t. 3705) flowered in the collection of His Grace the Duke of Bedford, at Woburn Abbey, the author remarking:—"I have named it in compliment to the very able Horticulturist who has charge of that noble collection, and by whose judicious care so many rarieties . . . . have been brought to a high state of perfection. The plant was sent from the Organ Mountains, by Gardner, in 1837." Sophronitis grandiflora was figured at t. 3709, from which collection it does not appear, but it is stated that "the credit of introducing the plant alive to this country is due to Mr. Gardner, who found it in the Organ Mountains

of Brazil, and sent it home in 1837." Cattleya pumila (t. 3656) is the plant now known as Lælia pumila, and it is said to have been "received from the Essequibo by John Allcard, Esq., in whose collection it flowered last year, and who kindly sent the well-executed drawing here engraved, from the pencil of Mr. Withers." The locality, however, appears to be erroneous, for the plant is now known to be Brazilian. *Zygopetalum Murrayanum* (t. 3674) was discovered in the Organ Mountains, Brazil, by Gardner, and flowered under the care of Mr. Stewart Murray at the Glasgow Botanic Garden.

(To be continued.)

ODONTOGLOSSUM × BRAECKMANII.

THE last number of *Lindenia* (t. 744) contains a figure of Odontoglossum × Braeckmanii, which is described as probably a hybrid between O. Hallii and O. Harryanum. It was raised in the collection of M. Metdepenningen, of Ghent, an amateur of Odontoglossums, and who has a very interesting collection of the genus. Its origin is said not to be exactly known, but it is supposed that the species just mentioned were the parents, and the character of the flowers supports the theory. The general shape may be described as intermediate, with an approach to O. Harryanum in the shape of the lip, and to O. Hallii in the colour and markings. The details of the crest are not well shown in the plate, but the markings are such as might have been expected from such a cross, and there can be little doubt that the parentage has been correctly inferred. Fortunately another seedling flowered shortly after the appearance of this plate, respecting which no such doubt exists. At the meeting of the Royal Horticultural Society, held at Chiswick on July 16th last, an Odontoglossum was exhibited from the collection of De Barri Crawshay, Esq., Rosefield, Sevenoaks, under the name of O. × Crawshayanum, to which an Award of Merit was given. It was raised from a cross effected on July 7th, 1895, between O. Hallii and O. Harryanum, the former being the seed parent. The flower has the general shape of O. Harryanum, together with the very characteristic bristly crest, while the pale greenish yellow ground colour and brown markings are nearer those of the seed bearer. Its general resemblance to the preceding seems sufficient to indicate their common origin, in which case the latter will have to take the rank of a variety. Mr. Crawshay must be congratulated on a third success in this difficult genus. Now that the secret of raising seedling Odontoglossums has been discovered, it is likely that their number will steadily increase in collections, and I hope that it will be possible in time to prove the parentage of most of our natural hybrids.

R. A. R.

CATTLEYA MENDELII WITH THREE LIPS.

At page 241 of the seventh volume of the Orchid Review there appeared a photographic illustration of a bloom of Cattleya Mendelii that appeared in my collection, with three lips and three sepals arranged very regularly. This same plant has again bloomed, and has produced an inflorescence of three flowers instead of one, and all similar to the one produced before, but somewhat crowded together on the inflorescence. I send you the flowers and you will be able to see that the previous form has been reproduced, and I am now of the opinion that this plant will always produce similar blooms.

O. O. Wrigley.

Bridge Hall, Bury.

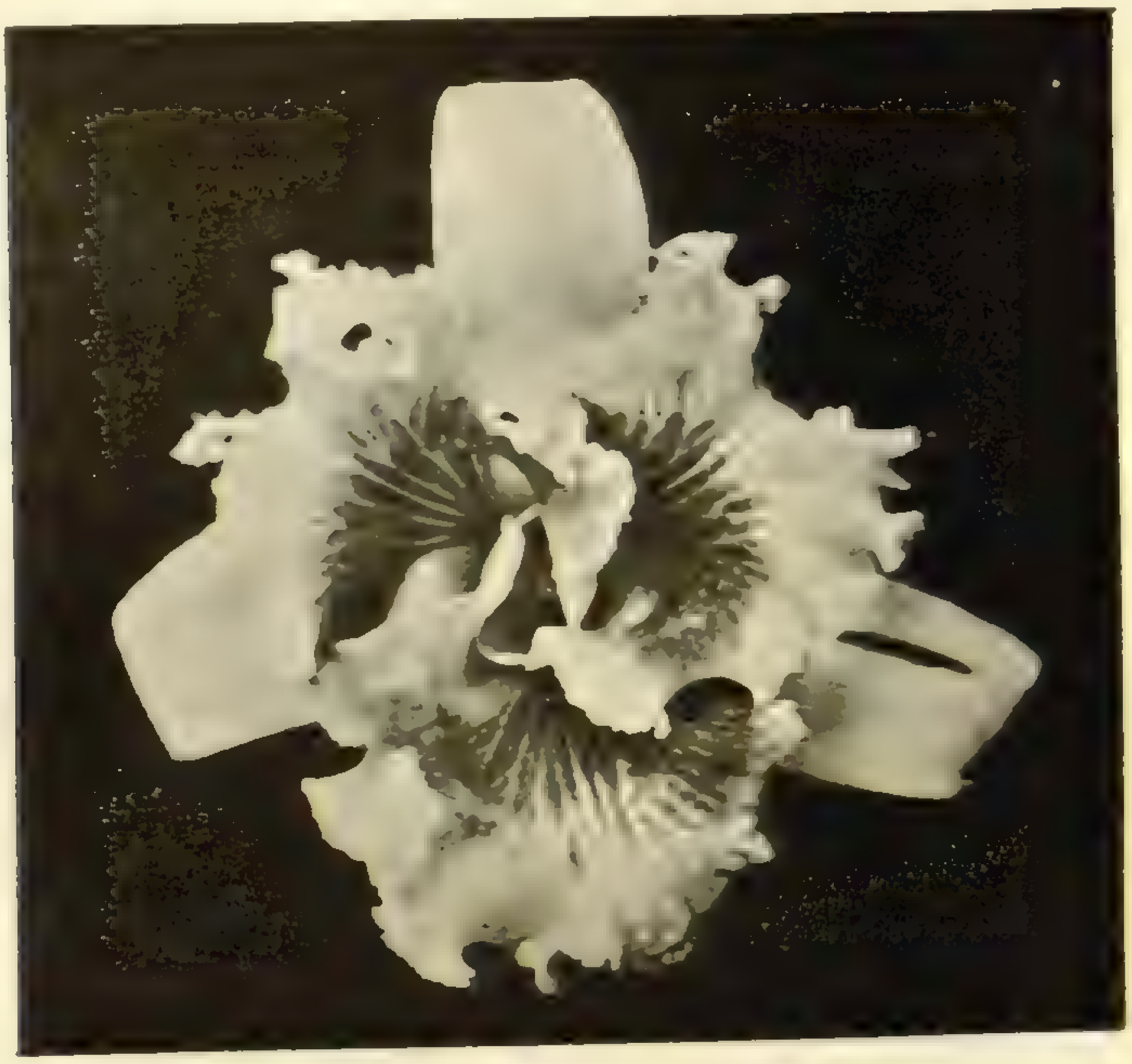

Fig. 32. Cattleya Mendelii with three lips.

The flowers sent are all identical with the one produced before, which seems to prove that the peculiarity is permanent. The history of the plant has already been given, and we reproduce the figure, which shows that the flower is perfectly regular and very striking.—Ed.

CATTLEYA WARSCEWICZII ABNORMAL.

A short time ago I found a malformation of a flower on a Cattleya Warscewiczii which seemed quite different from any peloriate forms I remember having seen described in the Orchid Review. Your very

interesting article on the "structure of an Orchid lip" (vol. viii., p. 75) refers to vol. ii., p. 358, which describes a flower of C. labiata with three uniformly shaped petals, three perfect anthers, and no stigma; it also refers to vol. iii., p. 366, where a similar flower is described. On the other hand you have described flowers with petals transformed into lips, like the beautiful Cattleya Mendelii abnormal pictured at vol. vii., p. 241. The form described in the REVIEW which comes nearest resembling the flower of which I have sent you a photograph, is one described under Cattleya Mendelii Janus, which has one sepal and a petaloid lip, or rather an organ with one side having the characters of the lip and the other those of a petal. The photograph enclosed shows the same thing, the petal part on the right having been made wavy by the undulations on the other side, but otherwise having the uniform colour of the other petal, light magenta. The left half of the lip had all the markings of the lip of a C. Warscewiczii, including the yellow eye, making it Cyclops-like. My flower differs, however, in other respects; it has two sepals and a petal, besides the malformed lip. The column is very short and club-shaped, as the photo shows, and I saw but one small anther-sac.

It seems that nearly all the malformations in Cattleyas reported in the REVIEW have been of Cattleya Mendelii or C. labiata (vera). In this instance the particular C. Warscewiczii had bloomed three or four seasons before this in my house and had always borne perfect flowers, and it is the only one out of a dozen plants from the hybrid district, imported at the same time, which has shown any malformation. The plant is in robust health, and the flowering pseudobulb was one of the largest among about a hundred plants.

A. W. HOISHOLT.

Stockton, California, U.S.A.

[A very curious flower, the lip seemingly half petal and half lip; probably an accidental occurence.—ED.]

ORCHIDS GROWING ON PALM-STEMS.

SEVERAL Orchids are known to grow on Palm-stems, but not often are their flowers taken for those of the plant on which they grow. This, however, seems to have been the case with the dwarf West Indian Thrinax Morrisii, respecting which Mr. Morris (*Kew Bull.*, 1891, p. 131) remarked:—"I was told that it produced a very pretty pink flower. This, when produced, proved to be an epiphytal Orchid, a species of Epidendrum, which attached itself to the stem of the small palm, and pushed its flowers through the fronds." The Orchid was probably Epidendrum elongatum.

LAW NOTES.

RUTHERFORD v. L'HORTICOLE COLONIALE.

AN important case was heard in the High Court of Justice, King's Bench Division, on July 2nd and 3rd last, before Mr. Justice Bruce. It was an action brought by J. Rutherford, Esq., M.P., Beardwood, Blackburn, against the society L'Horticole Coloniale, Brussels, for breach of warranty on the sale of an Orchid, and the following report has been taken from a transcript of the original shorthand notes of Messrs. Snell & Son, which has been kindly sent to us.

Mr. Horridge, K.C., and Mr. Randolph appeared for the plaintiff, and Mr. Glasgow for the defendants.

Mr. Horridge, in opening the case for the plaintiff, stated that at an earlier trial judgment was permitted to go by default, but that subsequently the defendants swore an affidavit that they were not the company that sold the Orchid, and got leave to set aside the judgment. But he would read a letter from the defendants' solicitors in which they no longer contested the point that they are the same body who sold the Orchid, although they have now changed their name. A number of defences had been raised, but the defence now was that they did not warrant the Orchid, if they sold it, and, secondly, if they did warrant it, there is no breach of warranty.

Mr. Glasgow: The issue in the case is this, that we admit the warranty. but that we say there has been some mistake, and that this is not the same Orchid.

Mr. Horridge stated that on 16th November, 1897, a gentleman named Schuster came to the house of Mr. Rutherford, at Blackburn, and produced a diagram of an Orchid called "Odontoglossum crispum var. Triomphe de Rambouillet," and that Mr. Rutherford purchased a plant, together with some others, for an aggregate sum of £400, of which £80 was paid for the Rambouillet. The diagram was produced to us, and the warranty was that the Orchid would flower, when it flowered, and if it flowered, according to that diagram. Two other Orchids mentioned on the same invoice were wrong. One described as Imperator was wrongly described, and the defendants took it back aud refunded the money paid for it. The other described as Archipel was also wrongly described, but was of equal value and was therefore kept. Mr. Schuster said that they would send a written warranty, and a clause in the next document of 27th November, 1897, stated, "Every plant is guaranteed true to description. At the same time we are always ready to amend or take back any plant that may not turn to your entire satisfaction"—this is the warranty. The diagram was handed to his Lordship for inspection, the plaintiff's Counsel pointing out that the flower had a pinkish ground with darker red spots, and a pure white lip.

The plant did not flower until January, 1900, and instead of being as described, it had a muddy yellow ground with brown spots—quite a different thing. Plaintiff then wrote to M. Linden, the manager or president of the defendant company, that the plant had been cared for and grown as well as possible for two years, and was now in flower, but to his regret and disgust it bore not the slightest resemblance to the engraving. He therefore asked that the plant should be fetched away and the money returned. On the 8th M. Linden replied, expressing his regret that the plant was not flowering true; which he could not understand, for he was sure that the true plant was sent two years ago. He also asked for a flower, and promised to settle the matter to plaintiff's entire satisfaction. Three flowers were accordingly sent on January 10th, and the 16th M. Linden replied that the flowers were entirely different from those of the plant sent, which had flowered with them four years in succession quite true, and it was impossible that it could change into a form like the one sent. On the other hand he regretted that the accounts of Messrs. Lucien Linden & Co., who sold the plant, were closed and could not be re-opened. Plaintiff at once wrote expressing his astonishment at the new position taken up, and stating that the plant was still in the same pot in which it was sent, and was there for his inspection. On January 22nd M. Linden replied that he could not believe it to be the same plant which had flowered several times true, and he regretted that they could do nothing further in the matter.

On January 24th, it was put into the hands of Mr. Rutherford's solicitors, who wrote setting forth the facts, and demanding the return of the money paid for the plant, or further steps would be taken. No reply was received to that letter, but apparently they communicated with Mr. Schuster, their agent in England, who wrote to plaintiff's gardener to the effect that he did not think it was a matter that ought to occupy a lawyer, and that he should be pleased to call by appointment to talk over the matter. This letter was taken to plaintiff's solicitor, who thereupon wrote that his client did not want to see Mr. Schuster, and unless a cheque for £88, being principal and interest, was sent by return of post proceedings would be taken. There was some further correspondence, and on April 2nd M. Linden wrote declining all responsibility, on the ground that the plant claimed for could not be the one they sold. Then the case went on, and judgment was signed for default of appearance, and a warrant was issued to the sheriff to assess the damages for breach of warranty.

An application was then made to set aside the judgment on the ground that they had a complete answer to the plaintiff's allegations, and denied all liability whatever. This necessitated a number of difficult inquiries, but on April 23rd defendants wrote proposing that the plant should be allowed to flower again and then be submitted to independent experts. Should it then

not flower true the price of £80 should be repaid with 5 per cent interest; in the meantime the action should be discontinued. Further correspondence followed, and new points of defence were raised, which had now been abandoned, and the issue was now limited to the amount of damages to be recovered. He should call expert evidence to show that this plant would have been worth £150 if it had complied with the warranty, but now it was only worth £5, and he claimed £120 damages.

Mr. John Rutherford, M.P., was examined, and stated the circumstances under which the plant was purchased, and that two others obtained at the same time proved not true to description when they flowered. He saw them unpacked, and saw the labels attached to them which he now produced. The "Imperator" flowered not according to the picture, and the money was returned. The "Archipel" was also incorrect. It was supposed to be a crispum, but proved to be an Adrianæ, but he thought it worth the money paid and therefore kept it. The Imperator was a Cattleya Trianæ, but very much smaller than represented and not so good in colour. He had about 500 Odontoglossums in his Odontoglossum house, besides other Orchids, and two men to attend to them. He believed the disputed plant had six bulbs when it arrived, but all the bulbs were carefully entered in the record book at the time, and the book would speak for itself. The plant had not been repotted since he had it, and he could not say what the nature of the compost was. He told the gardener not to repot it till it flowered. The ivorine label, "Odonto. crispum" on one side and "3a" on the other, was put in the pot when the plant came, and the number was the index number in the register book. Some of his constituents had been allowed to go through his Orchid houses, but his gardener would be there.

Mr. John Lupton said that he had been gardener to Mr. Rutherford for the last five years, and had attended to the Orchids with the assistance of Richard Ferguson. He met the box of Orchids at Blackburn Station, took them to Beardwood, and unpacked them in Mr. Rutherford's presence. The Rambouillet was labelled when unpacked, and he wrote the label marked 3a, to correspond with an entry that he made in the register book. Belgian pots were very different from English pots, and he could identify them. He had seen the drawing, and knew what the flower ought to be like. The label had not been changed, and the plant had not been repotted. Since this dispute he had not been allowed to touch the plant. It had six bulbs on arrival, and he would swear that the plant now produced was the plant he unpacked. Had it flowered as represented in the coloured print it would have been worth at least £150, but as it did flower its value was something under £5. The original label was not removed from the plant until the other had been put in and the entry made in the book. They had purchased a few more Orchids from defendants, which would be in Belgian pots. He

was guided by the colour in assessing the value, a white lip being very rare on a blotched crispum.

Mr. John Cowan, manager of John Cowan & Co., Gateacre, said that he had been over twenty years in the Orchid trade, and had had a very large number of Orchids through his hands. A plant of the size of the one produced, if it flowered true to the picture, would be very cheap at 150 guineas, and a very small plant at 100 guineas. It was not a fancy price, and if the plant could be found he could get £200 for it. It would be worth £150 out of flower if one could be certain that the painting was true.

Mr. Richard Ferguson, a florist at Blackburn, said that he was with Mr. Rutherford when these Orchids came, and until the Rambouillet flowered. He assisted in unpacking them, and saw the defendants' labels attached to the plants on their arrival. He also agreed with what Mr. Lupton had stated with respect to making out the ivorine label and making the entry in the book. It was his duty to assist Mr. Lupton, and he swore that the plant that bloomed was the actual one that was unpacked. Its value as it bloomed would be £5 or £6. He was with Mr. Rutherford four years, and Orchids would arrive three or four times a year.

Mr. Edward Valentine Low, of Hugh Low & Co., Enfield, stated that he had had a very large experience in Orchids. He had seen the print of this Rambouillet, and a plant of that size would certainly be worth £150. There are now six bulbs, and the plant would be divisible into two, worth probably 100 guineas each.

Mr. de Barri Crawshay, Rosefield, Sevenoaks, had had 27½ years' experience as an amateur of Orchids. He had seen the plant in question, and agreed that there were six live bulbs and evidence of four dead ones. Its value, if it were certain to flower according to that design, would be 150 guineas. He based his estimate on the many others he had seen sold at relative prices.

This concluded the plantiff's case, and the Court adjourned for the day.

Mr. Glasgow, in opening the case for the defendants, stated that there was no allegation that the plaintiff had acted in bad faith, but that he or his servants had made a mistake. The whole question turned on the identity of the plant. His case was that that was not the plant which was packed, which had four bulbs and a growth.

Mr. Ernest Haumont, in the defendants' service, stated that he recollected some Orchids being sent to Mr. Rutherford in November, 1897. He sorted them, saw their names put on the labels, and remained in the shed until they were packed and the box closed and addressed, after which it was sent to the station. The Rambouillet had four bulbs and a growth. It was a division of a plant which had flowered four times, in 1893, 1894, 1895, and 1896. He had seen this plant, but did not recognize it. The

man who packed the Orchid under his direction was not present in Court.

Mr. Henry Schuster said he was formerly a traveller in the employ of the defendants, and was acquainted with the history of this Rambouillet Orchid. It was purchased in France, and was kept for some time before being divided. The choice varieties were kept in a special compartment of the house, and numbered about 60 or 70. One or two pieces of this particular variety were sold, but he was not sure if there was any of the stock left. The value would depend partly upon the number of plants there were. He should think a plant of the Rambouillet would be fully paid for by £80. Many superior varieties had since turned up, and he doubted if he could sell a plant for £80 now, even in flower. It was Mr. Haumont's duty to see the plants properly packed. He would be pleased to sell Mr. Cowan half a dozen plants at £150 each if he had them.

Mr. William Handel Cannon, said that he was solicitor for the defendants, and had had many years experience as an Orchid grower. He had 4,000 or 5,000 plants and 2,000 or 3,000 seedlings. Personally he could see nothing in this Orchid to give £80 for. He would not give £50 for it. He was only speaking as an Orchid grower.

Mr. Glasgow said that concluded his case. He submitted that defendants had taken as much care as the plaintiff that there should be no mistake, and the burden of proof lay with the latter. With regard to the question of liability he submitted that he was not liable at all. We can do no more than we have done. On the evidence his friend had given it would be very difficult for plaintiff to establish his case, especially when you recollect that seventy of his constituents have come over to view his Orchids, attended only by the gardener. If this Orchid is not blooming or going to bloom in plaintiff's house, it may bloom in the house of one of his constituents or in that of some other gentleman. Gardeners of other gentlemen might come too, and they sometimes exchange flowers quite honestly, but some might come along and desire to take an Orchid of that kind. All these possibilities had to be taken into consideration before the plaintiff could make out his case.

Mr. Horridge submitted that he had proved conclusively that this particular variety had not been sent. If its value was sufficient to make defendants recollect the plant, how much more would it make plaintiff's gardener, who was present when Mr. Schuster sold it, and who knew its value, watch it carefully and recollect all about it! It was bought in November, 1897, and no such flower as was sold has appeared in our Orchid house, which I submit is conclusive evidence that the thing we bought never came. It is not suggested that any plant has ever been missed from the house; the books contain a full description of these Orchids, and therefore the only suggestion would be that

some gentleman came with that pot and those six or seven bulbs in his pocket, and took one plant away, and put that plant in place of it. I submit that these facts are conclusive, and that the damages claimed represent a reasonable figure.

Mr. Justice Bruce, in giving judgment, said that it was an action to recover damages for breach of warranty, the plaintiff alleging that the plant was not true to description, but an altogether inferior variety. The question turned on the identity of the plant—whether the plant produced in court was the one delivered by the defendants to the plaintiff, and he thought that the evidence given by the plaintiff was sufficient to establish his case, if not displaced by the other evidence. He then reviewed the evidence on both sides, and pointed out that if the plant sent off had four bulbs and a growth it was not the same plant which arrived with six bulbs. On its arrival it was carefully labelled, registered, the number of bulbs given, and the plant had never been removed from the pot of Belgian make in which it arrived. It was carefully watched, and did not flower until January, 1900, when beyond all doubt the blossom was not true, and did not answer the warranty. Plaintiff gave complete evidence as to details, and if that evidence is true, undoubtedly he has proved his case. Defendants appear to keep no register, and the evidence on their part depends almost entirely upon the evidence of Mr. Haumont, whose attention was not called to the matter until a long time afterwards, and he may well be mistaken. It seemed to him that he ought to find for the plaintiff on that part of the case, that the plant produced in court was the one sent as the Triomphe de Rambouillet, and as it is admitted that it does not answer the description, the warranty has not been complied with.

There remained the question of damages. A considerable body of evidence has been produced on plaintiff's behalf to show that this plant, if it had answered the description, would have been worth £150. On the other hand, Mr. Schuster, for the defendants, says the value would not be more than £80. That was a great conflict of testimony and he must deal with it in the best way he could. He was inclined to assess the value of that Orchid at £120. He thought there was no doubt at all about the principle on which the damages should be assessed in a case of this kind of breach of warranty. It was the difference between the article as it is and the value as it would have been if it had answered the description. In his opinion, if it had answered the description, it would have been worth £120. Its present value he understood not to be more than £5 or £6, and taking the highest sum, £6, that left the amount of £114, at which sum he assessed the damages. There will be judgment for the plaintiff for £114.

Mr. Horridge: And the costs, my Lord? His Lordship: And the costs.

PAPHIOPEDILUM × TAUTZIANUM VAR. YOUNGII.

It is interesting to record that the very rare hybrid Paphiopedilum × Tautzianum has again been raised, a plant having been exhibited at the R. H. S. meeting at Chiswick, on July 10th, from the collection of Reginald Young, Esq., Sefton Park, Liverpool, under the above name. It is a case of patience and perseverance rewarded, as Mr. Young has been making experiments for years, as may be seen by several interesting notices which have appeared in these pages (vol. iii., p. 201: iv., p. 309: v., p. 364, and vi., p. 302), the last containing a very complete summary of the work attempted.

FIG. 33. PAPHIOPEDILUM × TAUTZIANUM VAR. YOUNGII.

The history of this particular seedling is:—Cross made May, 1896: seed sown December following; seedlings discovered, November, 1897; plant flowered, June, 1901. Mr. Young, in kindly sending the photograph, writes:—"Curiously enough the seedling now in flower is one of the third batch, and twelve months younger than the second, of which no seedling has yet pushed up a spike. Evidence of the influence of the pollen parent, P. niveum, is apparent in all three batches, noticeably in the black dust-like markings

on the under surface of the leaves. It may be worthy of remark that the P. barbatum grandiflorum used as seed parent was the same plant in both instances, and that in both cases also the two pollen masses were used. In my first attempt only one pollen mass was used. I may add that the one particular seedling of the first batch which showed the influence of P. niveum in the foliage has now died without flowering, so that I may put down my first attempt to produce a true P. × Tautzianum as a failure." It may be remembered that the remaining seedlings of this batch proved indistinguishable from P. barbatum when they flowered, and yet the greatest care was taken in making the cross. Mr. Young has made no less than twelve attempts to raise this particular hybrid, and certainly deserves to be congratulated on at length succeeding. Probably the success will be repeated as other seedlings reach the flowering stage. The original P. × Tautzianum was raised from the reverse cross, P. niveum being the seed-parent, as also appears to have been the case with the variety lepidum; the present one, from the reversed cross, is sufficiently distinct from both to warrant the use of the varietal name. The ground colour is white, with a distinct flush of rosy purple, and the markings are of a rather darker shade.

AËRIDES MULTIFLORUM AND ITS ALLIES.

SOME time ago the late Major-General Berkeley showed that the well-known Aërides multiflorum could be divided into four distinct types or varieties, according to the geographical area in which the plants were collected (*Orch. Rev.*, i. pp. 163-164). Mr. Gustav Mann has now made some observations which point in the same direction, though, owing to the absence of specimens from certain localities, it is difficult to follow all the details. Mr. Mann, however, has had good opportunities to observe the species in a wild state.

The original A. multiflorum, of Roxburgh, was described and figured from specimens collected on the Garrow Hills, in the vicinity of Silhet (*Roxb. Cor. Pl.* iii. p. 68, t. 271), where it is said to flower during April and May. Mr. Mann describes it as having bright green, narrow, and thin leaves, nearly always drooping, like the flowers. He considers that *Bot. Mag.*, t. 4049 is an excellent figure of this species, notwithstanding a note in the text that the plant was sent to Kew from the mountains of Nepal, which he thinks must have arisen through some mistake, as the plant never grows as far west as Nepal.

The plant growing in the Sikkim Himalaya, Nepal, and as far east as Lower Assam, which is said to be accurately represented in Pantling's Orchids of the Sikkim Himalaya (*Ann. R. Bot. Gard. Calc.*, viii., p. 212,

t. 283), is said to have much more succulent, stiffer leaves, always of a somewhat reddish colour, especially in the cold weather, and both leaves and flowers stand erect. It never extends further eastwards than the Goalpara district in Lower Assam, and it is suggested that this plant is quite distinct from A. multiflorum.

Higher up the Brahmaputra Valley the preceding is replaced by the allied A. Fieldingii, Lodd., which is said to be much scarcer and handsomer, and grows more isolated, while both the forms referred to A. multiflorum are frequently crowded, sometimes hundreds of plants on one tree, and on the old mango trees at Dhubri Station, in Lower Assam, Mr. Mann has seen perhaps a thousand plants on one tree of the second form of A. multiflorum mentioned.

On looking the matter up I find that the name A. affine belongs chiefly to the western form mentioned, and should the two prove as constantly distinct as the above notes suggest, the name may have to be restored, though at present it is treated as synonymous with A. multiflorum. A. affine, Wallich, first appeared about 1828, as the name of a species said to grow in Silhet and Nepal, but without any description (Wall. Cat., n. 7316), and this latter was only furnished by Lindley in 1833 (*Gen. & Sp. Orch. Pl.* p. 239), where the same two habitats are repeated. Then a fine figure was given by the latter author (*Sert. Orch.*, t. 15), and the name A. multiflorum, Roxb., is given as a synonym. Wallich's plant is said to have been met with on the southern mountains of Nepal, near Sheopore. The figure was prepared from a drawing in the possession of the East India Company, assisted by dried specimens, and it is added that the species had also flowered in the collection of Messrs. Loddiges. This figure represents the erect Nepal plant, though Roxburgh's habitat and name are included in the text. This early confusion may be the cause of the suggested mistake in the *Botanical Magazine* record above alluded to, and it may have been this which led Berkeley to consider the western form as probably the type of A. multiflorum, which we have just seen is not the case. There appears also to have been some confusion with the original dried specimens of A. affine. At all events Wallich's Nepal sheet so labelled at Kew contains also specimens of A. odoratum and Rhynchostylis retusa, though fortunately Lindley's description and figure show which was the true plant.

A. roseum, Lindl. (*Paxt. Fl. Gard.*, ii., p. 109, t. 60) was described and figured from a plant which flowered with Messrs. Loddiges. Its exact origin was not stated, but it appears to represent the western form, and was afterwards made a variety of A. affine.

A. Lobbii (*Ill. Hort.*, 1868, t. 559) was introduced from Moulmein, by Thomas Lobb, who sent it to Messrs. Veitch in 1851, and is the Burmese representative of A. multiflorum. It has longer, somewhat branched

inflorescences, and broadish leaves. A. Veitchii (*Belg. Hort.*, 1876, p. 291) is a form of the same, and has the same history.

A. Godefroyanum (Rchb. f. in *Gard. Chron.*, 1886, xxv. p. 814) was introduced from Saigon in Cochin China, by M. Godefroy Lebeuf, and has long, complicate leaves, which give the plant a distinct appearance, and brilliantly coloured flowers with broad segments. It as since been referred to A. multiflorum.

A. multiflorum in the aggregate sense, as now understood, has also been reported from the Andaman Islands, and Ridley also records it from Siam, so that it appears to be a very widely diffused and variable plant, but how far the different forms can be distinguished by absolute characters cannot be determined without a more complete series of specimens than is available for comparison.

A. Fieldingii was introduced by Messrs. Veitch in 1850, through Thomas Lobb, together with Vanda cœrulea, and was long known in cultivation as the "Fox-brush Aërides," being afterwards named in compliment to Colonel Fielding, an officer of the Indian army, in 1875 (*Jenn. Orch.*, t. 20). It is very nearly allied to A. multiflorum, but has broad leaves, a very dense inflorescence, and the front lobe of the lip is very acute. Its principal habitat is given as Shillong, and the adjacent hills. A. Williamsii (*Warn. Sel. Orch.*, i., t. 21) is a beautiful white variety which is believed to have been sent home along with the type, and is very rare in cultivation.

R. A. R.

PAPHIOPEDILUM ROTHSCHILDIANUM ABNORMAL.

A VERY curious flower of Paphiopedilum Rothschildianum has appeared in the collection of D. M. Grimsdale, Esq., Kent Lodge, Uxbridge, in which the staminode has reverted to its original character and come as a perfect anther, occupying a position at the back of the column, midway between the two normal anthers. Thus in this respect the flower is identical with that of Neuwiedia, the most primitive Orchid known, in which there are always three perfect anthers, situated at the back of the flower. The only other departure from the normal structure is that the lower sepal is divided to the middle into two. The abnormal flower is the terminal one on the spike, and as the rest are normal the occurrence is probably accidental. The chief interest in these abnormal flowers is the light they often throw on the evolution of the highly complex organism we now know as an Orchid flower, and the homologies of the different parts, and the present example would suffice to show that the staminode of this genus is only a modified stamen were the point any longer in doubt.

R. A. R.

CALENDAR OF OPERATIONS FOR AUGUST.

By H. A. BURBERRY, Orchid Specialist, King's Heath, Birmingham.

OWING to the excessive heat we have passed through since the last Calendar was written, the Warm and Intermediate class of Orchids have grown apace, and are now but little if any behind their usual condition for the time of year, in spite of the previous cold and comparatively sunless weather. On the other hand, with the Cool House Odontoglossums the reverse is the case, the cool weather suiting them to a nicety, but now they are showing signs that the late great heat was a little too much for them. It was, indeed, quite impossible to keep the temperature cool enough for them just then, though no permanent injury can result during these short periods of heat if the house is kept as cool as it can be by the aid of extra thick shading. Old boards are good for placing on the roof during the hottest time of the day, keeping the glass very much cooler than would otherwise be the case. It is during the extreme heat that the lath roller blinds have, I think, a distinct advantage over the net-work shading, more especially if raised six inches or more from the glass, being then much cooler.

The Dendrobiums should now again be looked over, and all having completed their new pseudobulbs removed to another department to mature them. Many other species of Orchid will also soon have their new growths fully made up, and should either receive similar treatment to the Dendrobes or have suitable positions selected for them in their respective departments. The summer blooming Cattleyas are amongst these, also Lælia majalis, Catasetum, Mormodes, and Cycnoches, and possibly a few isolated cases of various genera. On the other hand a large number of species are only just commencing to push forth new growth. Such it is unnecessary to say should have every encouragement given them to grow. Thus it will be seen that this is a season of a good deal of changing of places or transferring to other houses—little matters perhaps, but very important nevertheless, for everything appertaining to successful flowering depends in the first place on the size of the pseudobulb, and, secondly, on the maturing of the same. In the latter process, however, see that it is of a gradual character, and that extremes are avoided.

During this the growing season of the majority of Orchids it is indispensable that a good supply of moisture be maintained, atmospherically and also at the roots of the plants. This I have always recommended, but I may here add a word of caution against applying too much to the latter, for it is quite possible to do so. The safest plan is to let the compost get fairly dry before watering it. The roots keep healthier, because the compost keeps sweeter, consequently the tissue or fibre of the plant is more firmly built, and much less liable to disease in its various forms. The above applies to

Odontoglossum crispum and Cypripediums, as well as other Orchids. It used to be thought that the roots of an Odontoglossum crispum should be continually saturated when growing, but that it is the wrong treatment has again and again been proved by all the best cultivators. It will have been noticed during hot weather, when but little if any fire heat is required in any department, what an extremely small amount of water is necessary at the root to keep the compost in a moist and fit condition. It is during such times that over-watering is to be feared, more than at any other season of the year.

Any plants where the moss has grown badly, or where the surface of the compost looks bad from any other cause, should now be re-surfaced with fresh, live, sphagnum moss, which will soon grow nicely and make just enough headway before the winter to carry the plants through, giving them a nice, neat, and trim appearance. Neatness and trimness, not only indicates that care is bestowed upon them, but it has a great bearing on the healthiness of the plants. In order to secure this cleanliness it is necessary, of course, to handle each individual pretty frequently, and by so doing little matters of importance are detected and remedied in time so prevent possible future trouble. Slugs are caught wholesale when a general pot wash takes place, thus preserving many tender spikes. Again, it is not always possible to see that thrip and red spider are gaining a foothold without a close view. What looks worse than leaves permanently disfigured by thrip punctures? It is in these days of patent, safe, and effectual insecticides a standing reproach. Weeds and ferns are better exterminated. None of these should be seen in an Orchid pot, for it imparts a rubbishy and uncared for appearance.

Cœlogyne cristata, Lycaste Skinneri, and the deciduous Calanthes are now getting on well with their growth, and, if well rooted, are species that enjoy watering at this juncture with a little weak cow dung manure water. It may also be applied now to the evergreen Calanthes, Phaius grandifolius, and similar species, also to Sobralias, Pleiones, and other terrestial growing kinds. But unless the plants are firmly rooted, and the compost is in a good state of preservation, no good, but more probably harm, will result from giving manure water.

Black spot on the foliage of the deciduous Calanthes is a disease to be dreaded. It does stick to them—in fact, when once contracted I doubt if it is possible to thoroughly cure them again. Certainly the application of manure seems then to aggravate more than otherwise. This disease, I think, is brought about in many cases by over-feeding. In the clear air of the country Calanthes usually give but little trouble if treated with ordinary care; but in large towns I fear their successful culture is more the exception than the rule. Even though fair sized bulbs may be produced, the

spikes are weak, and the blooms washy, owing to lack of light at their blooming season.

Lælia anceps, though not giving so much trouble as the foregoing, is unfortunately very troublesome. They grow well enough in towns, and produce their flower spikes, which bloom pretty well in November or December should the air be moderately clear, but one good smoky day is enough to clear them off. This is very provoking, for Lælia anceps is such a grand and useful thing when well and strongly grown. They are now making up apace and just showing their flower spikes. The new leaves of these, like some other species when forming, are sometimes scarcely self-supporting and topple over, in which position they mature, if not lifted and tied in a correct one. If the latter is attended to at once they will soon be all right again, and in a few days they are rigid, when the support may be removed. Little items such as the above, if performed at the right time, all help to form a neat and handsome plant, but if not trained at the right time no tying can bring back a natural appearance. L. autumnalis, L. Gouldiana, and L. albida are other beautiful winter bloomers that are also now moving nicely. These, although enjoying the same conditions as the Mexican House affords, will not withstand nearly so much bright sunshine as L. anceps, and should be shaded by a thin coat of whitewash or summer cloud.

Ants will probably cause a good deal of trouble this month in the warmest houses. They are troublesome and destructive little creatures, and are better if absent. Their habits of carrying about scale, of worrying out the compost from among the roots, and of entirely disposing of tiny Orchid seedlings, are not very agreeable. They have also a particular liking for the juices of some Orchids, especially Phalænopses, and they not infrequently kill this species by continually feeding on the under surfaces of the leaves. Ballykilrain Ant Poison is the best invention that I have yet tried for destroying them. It should be well stirred, and smeared in places along their favourite runs each afternoon, when the shutting up takes place, when the extra warmth then seems to make them most active and voracious.

The new pseudobulbs of that beautiful winter flowering Orchid, Cattleya Trianæ, are now fast making up one by one. To remove such to dryer and less growing conditions would now be a good plan, the next best alternative being to select the driest and airiest place in the same house for them. Whatever course be taken, an occasional plant will doubtless break a second time, but this fact should make no difference to its treatment. Cattleya Dowiana and C. D. aurea are almost identical in the flower, but the difference in their habits and constitutions is great. The first-named has a thickish, club-shaped bulb, and short, roundish leaf, and is pale green in colour, whilst the latter has longer, thinner bulbs and leaves, and is dark

green in colour. The first is shy to bloom, and its natural time for so doing is late autumn, a month or two after growth is completed, but the last is very free blooming, and does so immediately growth is completed. C. D. aurea will soon be in bloom, after which it should enjoy a good rest, and care should be taken to wholly remove the old flower sheath, or decay may set in there when the flower spike is cut. This decay is caused by the natural decay of the remaining portion of the spike, which cannot dry up owing to the sheath, and decay then descends to the bulb, when the leaf falls and the plant is greatly weakened. A judicious rest given now avoids possible trouble the following growing season, when the new partly-formed growths are apt to turn spotted and perish. Cattleyas superba and Eldorado will this month be at their best. Both are beautiful, but neither will withstand rest as applied to other Cattleyas. They should simply be kept drier in their respective place, namely, the East Indian house.

CATTLEYA RENÉ.

UNDER the name of Cattleya René, M. Ed. André has described a supposed new Cattleya in the *Revue Horticole* for July 16th, which has flowered in the collection of M. O. Doin, of Paris, and the description is accompanied by a woodcut and a coloured plate (p. 332, fig. 141). It is said to have been imported direct from Brazil, and to be intermediate between C. Mossiæ and another parent which it is difficult to identify, though its possessor thinks it was C. Lueddemanniana (speciosissima). C. gigas and C. aurea appear to have both been thought of, but the idea was abandoned on consideration. It is dedicated to Miss René André, and is described as most like C. Mossiæ but different in some respects. It is a beautiful plant, but two or three difficulties suggest themselves about the record. C. Mossiæ and C. Lueddemanniana are natives of Venezuela, and a natural hybrid between them, if such were known, would scarcely be likely to appear in Brazil. If the plant had been cultivated in Brazil its origin might be explained in some other way, but on this point there is no exidence. The figure certainly does not represent a typical C. Mossiæ, but that species is notoriously variable, and without seeing a flower one might ask whether it may not be an extreme form of this polymorphic plant. This does not quite get over the geographical difficulty, but on this point it may be said that no combination of known Brazilian species would yield such a plant. It is to be hoped that its history may be cleared up in the future, for we have already too many of these doubtful forms, which form such a stumbling block when one tries to clear up the history of a genus.

R. A. R.

LÆLIA × DIANA.

LAST year a pretty little hybrid was described in these pages under the name of Lælio-cattleya × Hurstii (p. 287). It had been purchased at the sale of the Selly Hill collection with the recorded parentage, "Lælia purpurata × Cattleya Skinneri," and at that time the record was not suspected. It has now flowered again and Captain Hurst has had the plant photographed, and points out certain characters which resemble Lælia Dayana, not Cattleya Skinneri. For example, the pollinia are of equal size,

FIG. 34. LÆLIA × DIANA.

the leaves and flowers solitary, the latter appearing in late summer, on incomplete growths, and without a sheath, also the colour and scent of the flower, and some slightly raised keels on the lip, are evidently characters derived from Lælia Dayana, and thus the parentage must be amended. A hybrid between L. purpurata and L. Dayana has just been recorded in these pages as L. × Diana (p. 197), and though the present one is not so good a form as that, its essential characters agree, and it must be considered as a

form of the same hybrid. The photograph here reproduced shows its general character, but the plant is still very small, and the petals do not seem quite fully developed. As already remarked the flower sent by Mr. Keeling was very handsome.

ORCHIDS AT BRADFORD.

An illustration of a house of Odontoglossums in Messrs. Charlesworth & Co.'s Nursery, at Heaton, Bradford, appears in *The Garden* for July 13th (page 33), together with some interesting notes on the establishment and the Orchids cultivated there. It is described as an Orchid Nursery only, and its rise and progress are attributed to the growing popularity of this beautiful class of plants. A note on the use of leaf-mould in the establishmen is so interesting that we reproduce it :—

"Mr. Charlesworth firmly believes in the new Orchid compost that is now becoming so popular with Orchid growers, namely, leaf-soil. This must be good and 'leafy,' having all the dust and small particles removed by a coarse-grained sieve. Mr. Charlesworth hopes in the course of a short time to cultivate practically the whole of his Orchids in this compost, and to dispense with peat and sphagnum as a rooting medium. The results obtained so far with Odontoglossums and Cypripediums in particular are very remarkable. The small and usually delicate Lady's Slippers in the new compost grow with a surprising vigour, while Odontoglossums make growths that in the ordinary compost appear to be almost impossible. Miltonias, too, with many are often poor growers, the leaves being of a sickly greenish yellow, and would hardly be recognized when established in the leaf-soil. Orchids that have refused to thrive in a mixture of peat and sphagnum, and indeed were quickly dying, have, when provided with a compost of leaf soil, not only recovered, but have made astonishing progress too. Cattleyas also and other genera are partially cultivated by Mr. Charlesworth in this new soil that he has so much faith in, and justly so.

"There seems to be a probability of Orchid culture being practically revolutionized, if the leaf soil continues to prove a success, which so far it undoubtedly has done. The culture of Orchids will at least be brought within the reach of many more than has hitherto been the case, if it can be proved and made generally known that some. at any rate, of the most popular genera can be grown under the same treatment as that accorded to ordinary greenhouse or warm house plants. That such will prove to be possible in the near future we are sufficiently optimistic to believe ; it will, at any rate, be most interesting to watch what developments follow when the more general use of leaf soil for Orchids has been widely advocated."

SOCIETIES.

ROYAL HORTICULTURAL.

THE first meeting of the month was held on July 2nd at the Drill Hall, Buckingham Gate, Westminster, when few Orchids were exhibited. There were present of the Orchid Committee :—H. J. Veitch, Esq., in the chair, and Messrs. E. Ashworth, H. Ballantine, W. A. Bilney, T. W. Bond, H. J. Chapman, J. Douglas, J. G. Fowler, H. T. Pitt, H. M. Pollett, J. W. Potter, F. A. Rehder, H. A. Tracy, W. H. Young, W. H. White, and J. O'Brien (Hon. Sec.)

Sir Trevor Lawrence, Bart., Burford Bridge (gr. Mr. White), exhibited the rich ruby-crimson Renanthera Imschootiana superba, Cypripedium × Wiertzianum Burford variety, Sobralia macrantha superba, and the curious Aëranthes dentiens, light green in colour, the latter receiving a Botanical Certificate. There was also a plant of the very interesting Schomburgkia Thomsoniana, which gained an Award of Merit. This plant first made its appearance in the collection of W. J. Thompson, Esq., Ghyllbank, St. Helens, and was exhibited at the Royal Horticultural Society's Show at Liverpool in 1886, when it was described by the late Professor Reichenbach. Its habitat was unknown, but since then some specimens sent from the Great Cayman Islands, in the West Indies, have been identified with it by Mr. Rolfe. The plant has the general habit of S. tibicinis, but the flowers are smaller, the sepals and petals yellow and very undulate, and the front lobe of the lip purple.

Sir Frederick Wigan, Bart., Clare Lawn, East Sheen (gr. Mr. Young), showed a splendid plant of Cattleya Gaskelliana alba with nine flowers, to which a Cultural Commendation was given, and C. Mendelii albescens, a beautiful white form with a very slight blush tint on the sepals and lip.

J. A. Timmis, Esq., Stone Hall, Oxted, showed examples of Cattleya Mossiæ and C. Warneri.

Mr. E. Kromer, Roraima Nursery, Bandon Hill, Croydon, showed a good plant of Promenæa xanthina (citrina) with eleven bright yellow flowers.

THE meeting on July 16th was held at the Society's Gardens at Chiswick, in connection with the Conference on Lilies. The weather was brilliant, and the big Vinery was a little too hot to be pleasant. The Orchid exhibits were not numerous, but included several very interesting things, and among them another hybrid Odontoglossum from the collection of De Barri Crawshay, Esq. The Orchid Committee was represented by:—H. J. Veitch, Esq., in the chair, and Messrs. T. W. Bond, H. J. Chapman, De B. Crawshay, E. Hill, A. Hislop, H. T. Pitt, W. Thompson, W. H. Young, and J. O'Brien (Hon. Sec.)

W. Thompson, Esq., Walton Grange, Stone (gr. Mr. Stevens), sent an inflorescence of Odontoglossum maculatum Thompsonianum, an exceptionally large and handsome form, far superior to anything we have yet seen. The inflorescence bore eight flowers, which measured three inches in diameter across the petals, and the segments were very broad and richly coloured. **A First-class Certificate was awarded.**

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), received an Award of Merit for Odontoglossum × Crawshayanum, an interesting and handsome hybrid raised from O. Halli ♀ and O. Harryanum ♂. The flower most resembles the latter, somewhat modified in the details of the column wings and crest, but the colour is almost that of a light form of O. Hallii. The cross was made in 1894, and the plant has now flowered for the first time.

Sir Frederick Wigan, Bart., Clare Lawn, East Sheen (gr. Mr. Young), sent an inflorescence of the handsome Cattleya × Whitei, a natural hybrid from C. Warneri and C. Schilleriana, whose history was given on page 292 of our seventh volume.

E. Roberts, Esq., Park Lodge, Eltham (gr. Mr. Carr), showed a well grown example of Anguloa Ruckeri bearing six flowers.

Reginald Young, Esq., Linnet Lane, Sefton Park, Liverpool (gr. Mr. Poyntz), exhibited Paphiopedilum × Tautzianum Youngii (barbatum grandiflorum ♀ × niveum ♂), a pretty form with the flowers tinged with light purple on a white ground. Its portrait and history are given on page 241.

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, staged a small but select group, including two fine forms of Cattleya Gaskelliana, Lælia × Iona (tenebrosa × Dayana), with small, richly coloured flowers, Cypripedium × Lawrenceano-Charlesworthii, a very pretty little hybrid combining the characters of the two parent species, C. × Frau Ida Brandt (Io grande × Youngianum), the handsome C. × Goweri magnificum, and C. × Kimballianum Low's var., a large and handsome form which received an **Award of Merit.**

A THIRD meeting was held at the Drill Hall, Buckingham Gate, Westminster, on July 30th, when the number of exhibits was very small.

G. W. Law-Schofield, Esq., New Hall Hey, Rawtenstall (gr. Mr. Shill), exhibited the beautiful Cypripedium × Maudiæ magnificum, which received a First-class Certificate, also a seedling of unrecorded parentage.

N. C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gr. Mr. Murray), received an Award of Merit for Cypripedium × Argo-Rothschildianum, **whose parentage is indicated by its name.**

C. J. Lucas, Esq., Warnham Court, Horsham (gr. Mr. Duncan), exhibited Cypripedium × warnhamiense.

R. Tunstill, Esq., Monkholme, Brusfield, Burnley, showed a good form of Cattleya Eldorado.

Sir F. Wigan, Bart., Clare Lawn, East Sheen (gr. Mr. Young), exhibited Cypripedium concolor, C. niveum, C. × Godefroyæ, Cattleya × Atalanta, C. × Whitei, C. × F. W. Wigan, C. × porphyrophlebia, and Lælio-cattleya × Hy. Greenwood.

Messrs. J. Veitch & Sons, Chelsea, staged a fine showy group, for which a Silver Flora Medal was awarded. Included were Lælio-cattleya × callistoglossa, and four plants of the brilliant variety ignescens, L.-c × Ascania, L.-c × Clonia, L.-c × Duvaliana (C. Lueddemanniana ♀ × L. purpurata ♂), and Cattleya × Atalanta.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

A MEETING of this Society was held at the Coal Exchange, Manchester, on June 20th, when the exhibits were very few, as is usual about this time of the year.

S. Gratrix, Esq., West Point, Whalley Range (gr. Mr. Cypher), received a First-class Certificate for a fine example of Cattleya Gaskelliana formosa, and Awards of Merit for C. Mendelii West Point var., a finely shaped and richly coloured flower, C. Mossiæ Arnoldiana, and Odontoglossum crispum West Point var.

A. Warburton, Esq., Haslingden (gr. Mr. Lofthouse), received a First-class Certificate for Cypripedium Curtisii × Morganiæ, a handsome hybrid intermediate in character.

Mr. A. J. Keeling, Cottingley, Bingley, received a Bronze Medal for a good group of Orchids containing some showy Cattleyas, Lælias, and Cypripediums.

CATTLEYA ROEZLII.

THE *Moniteur d'Horticole* for July 25th contains a note on Cattleya Roezlii by M. Otto Ballif (p. 162), from a plant in the collection of M. J. Ragot, Villenoy, near Meaux, France. It is said to have been described by Reichenbach as a natural hybrid between C. Mossiæ and C. speciosissima, but I do not find such a remark, and it may be interesting to repeat Reichenbach's original description, which is as follows :—

"CATTLEYA (labiata) RÖEZLII, Rchb. f., 1874. This turns out to be merely a catalogue name, and I have earned many reproaches on account of it from excellent Orchidic acquaintances in England who were a little interested in the trade. I spoke about Cattleya Mossiæ without having Sir William Hooker's table, *Bot. Mag.*, 3669, in my memory. The feeling against Don Benito was, however, quite pardonable—even justified. Panno-

Roezl had most accidentally only introduced, if I remember right, 6,000 plants at once, and those who had paid first good prices felt a well excusable regret. Where are they? *Vadite ad inferos.* In those days Cattleyas were repotted as often as Coleuses, and they died, though not so quickly as Coleuses. I have, however, a letter from Mr. J. Miles, Lord Rendlesham's gardener, who sent me in the autumn of 1875 the first flower expanded in Europe, far superior to my typical wild flower sent by M. Roezl, aud now by Mr. Sander. The plant has more slender bulbs and there appear to be usually two nearly equal joints, whereas in Cattleya Mossiæ I think them very unequal. The flower would appear to resemble most nearly that of Cattleya Warscewiczii. It has two bright-yellow eyes behind the anterior blade of fine purple. The superior part between the side laciniæ appears to be quite or nearly free from brown. It has usually three flowers, now two. I hope the plant will now-a-days be kept, and enjoy a good reputation.' —Rchb. f. in *Gard. Chron.*, 1882, xviii., p 457.

This does not read at all like the description of a natural hybrid, and the plant has since been almost, though not quite, lost sight of. My own impression is that it is one of the forms of C. Lueddemanniana, but I hope to be able to examine it when next it flowers.

R. A. R.

ORCHIDS IN SEASON.

SEVERAL beautiful Odontoglossums are sent from the collection of R. Ashworth, Esq., Newchurch, Manchester, by Mr. Pidsley. O. × excellens Charlesworthii, obtained from Messrs. Charlesworth & Co., has the centre of the petals and the lip white, the former with one or two spots, and the latter four or five in front of the crest. The rest of the flower is bright yellow, with two bars of confluent brown blotches on each sepal. O. crispum Trissie Ashworth, obtained from Mr. Bogarde, of Birmingham, three years ago, has the ground pure white and the sepals heavily blotched with clear light purple, each petal bearing about four similar small spots. The shape is good and much crisped. O. c. James Ashworth has all the segments, including the lip, very broad, and the latter has the three confluent cinnamon coloured spots in front of the crest, and many small spots near the margin. The petals are white and the sepals suffused with pink. It came from Messrs. Sander. The remaining one is a good white crispum, slightly tinged with pink on the lateral sepals, and the spots confined to the lip. How far these forms differ from some of those which have preceded them we cannot say, for the varieties of Odontoglossum crispum are becoming almost innumerable.

CATTLEYA × GLORIOSA.

In the *Gardeners' Chronicle* for June 25th last (p. 418) a hybrid is described by M. Cogniaux, under the name of Cattleya × gloriosa, which was raised by M. A. S. Peeters, of Brussels, from C. Warneri and C. Schilleriana. It is evidently a handsome thing, but if the parentage is correctly stated the plant must be considered a form of a handsome natural hybrid described many years earlier in the same work, namely C. × Whitei, (*Gard. Chron.*, 1882, xviii., p. 586). Then there is an earlier artificial hybrid derived from the same two species, namely, C. × Russelliana, raised by M. G. Mantin. which has since been considered as a form of C. × Whitei (*Orch. Rev.*, vii., p. 292). It is unfortunate that this now well-known plant should have received an additional name. There is also an earlier C. gloriosa (L. Lind. in *Journ. d. Orch.*, ii., p. 342), which has dropped into the ranks of synonymy, being a form of the old C. labiata.

R. A. R.

NOTES.

Two meetings of the Royal Horticultural Society will be held at the Drill Hall, Buckingham Gate, Westminster, during August, on the 13th and 27th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The Manchester and North of England Orchid Society hold no meeting during August, their next meeting being fixed for September 5th.

An illustration of a house of Miltonia vexillaria in the collection of R. I. Measures, Esq., Cambridge Lodge, Camberwell, appears in *The Garden* for July 27th (p. 61). It is very effective, and shows how well Mr. Chapman has succeeded with the culture of this plant in an essentially metropolitan locality.

We learn from Mr. Elwes that the charming little Cypripedium guttatum, for which he received a Botanical Certificate at the recent Temple Show, was brought home by him all the way from the Altai Mountains. It was found at a high attitude, where it is covered with snow for about eight months of the year, growing and flowering during the short summer. Mr. Elwes has succeeded in growing it for three successive years by keeping it in his ice-house during the whole period that it is at rest—certainly a novel method of treatment, but one which is justified by results.

Lælio-cattleya × Bertha is the name of a hybrid derived from Lælia grandis × Cattleya Schrœderæ, which has recently flowered in the collection of R. H. Measures, Esq., The Woodlands, Streatham, and is described in *The Garden*, 1901, lix., p. 369.

Writing on the culture of Odontoglossum Harryanum in the *Gardeners Chronicle* for June 25th, "G. G. W." remarks (p. 419) that two years ago he saw about a score of plants of this fine Odontoglossum in a very healthy condition, full of vigour, and flowering wonderfully every year. They had not been potted for at least six years, and even Continental growers who saw the plants said that they had never seen finer. The most remarkable thing about them was that they grew on a shelf in a glass potting shed, with a higher temperature than is usually afforded Odontoglossums all the year round.

ORCHID PORTRAITS.

CATTLEYA × MISS HARRIS VAR. E. ASHWORTH.—*Gard. Mag.*, 1901, p. 481, with fig.

CATTLEYA RENE, André.—*Rev. Hort.*, 1901, p. 332, fig. 141, and plate.

CIRRHOPETALUM CUMINGII.—*Journ. Hort.*, 1901, xliii., p. 75, with fig.

CYMBIDIUM LOWIANUM × EBURNEUM.—*Gard. Chron.*, 1901, xxx., p. 25, fig. 10.

LÆLIA LINDLEYANA, Veitch.—*Lindenia*, t. 742.

ODONTOGLOSSUM BRAECKMANI, Hort.—*Lindenia*, t. 744.

ODONTOGLOSSUM × CRAWSHAYANUM.—*Gard. Chron.*, 1901, xxx., pp. 60, 77, fig. 27.

ODONTOGLOSSUM CRISPUM QUEEN EMPRESS.—*Journ. Hort.*, 1901, xlii. p. 235, with fig. VAR. SANDERÆ.—*Journ. Hort.*, 1901, xliii., p. 3, with fig.

ODONTOGLOSSUM EDWARDII.—*Journ. Hort.*, 1901, xlii., p. 236, with fig,

ODONTOGLOSSUM × MACULATUM THOMPSONIANUM.—*Gard. Chron.*, 1901, xxx., pp. 60, 77, fig. 28; *Journ. Hort.*, 1901, xliii., p. 73, with fig.

ONCIDIUM STELLIGERUM, Rchb. f., VAR. ERNESTII, Will.—*Lindenia*, t. 743.

PHALÆNOPSIS × HARRIETTÆ.—*Journ. Hort.*, 1901, xlii., pp. 236, 237, with fig.

SOBRALIA RUCKERI.—*Gard. Chron.*, 1901, xxx., pp. 66, 67, fig. 23.

ZYGOPETALUM × CLAYI, Rchb. f.—*Lindenia*, t. 741.

CORRESPONDENCE, &c.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they may have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.)

J. R. Villenoy. Maxillaria nigrescens, Lindl., and Polystachya cultrata, Lindl. Many thanks for note.

J. W. A. Lælio-cattleya × Schilleriana.

F. L. Mormodes pardinum var. unicolor and apparently Cymbidium ensifolium, Sw., which however is not known to be indigenous in Java.

W. H. W. Odontoglossum × Denisonæ, one of the forms with white ground.

Photographs received, with thanks. A. W. H., O. B., F. L.

Received. J. R., E. F. C., E. R., W. B.

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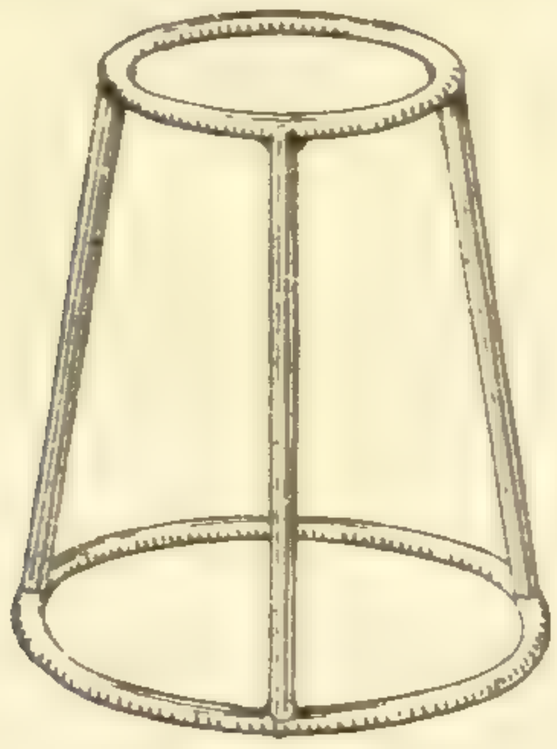

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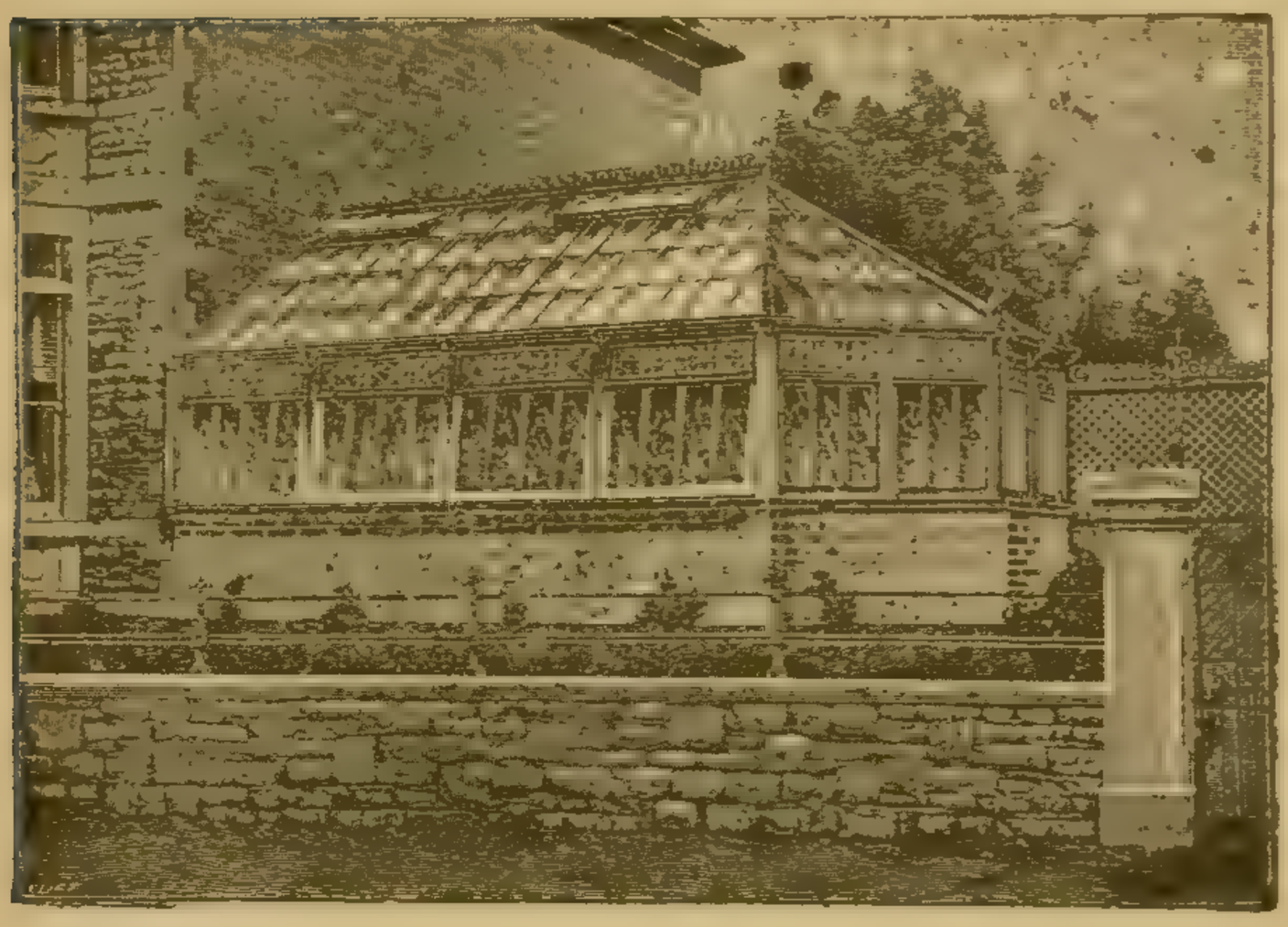

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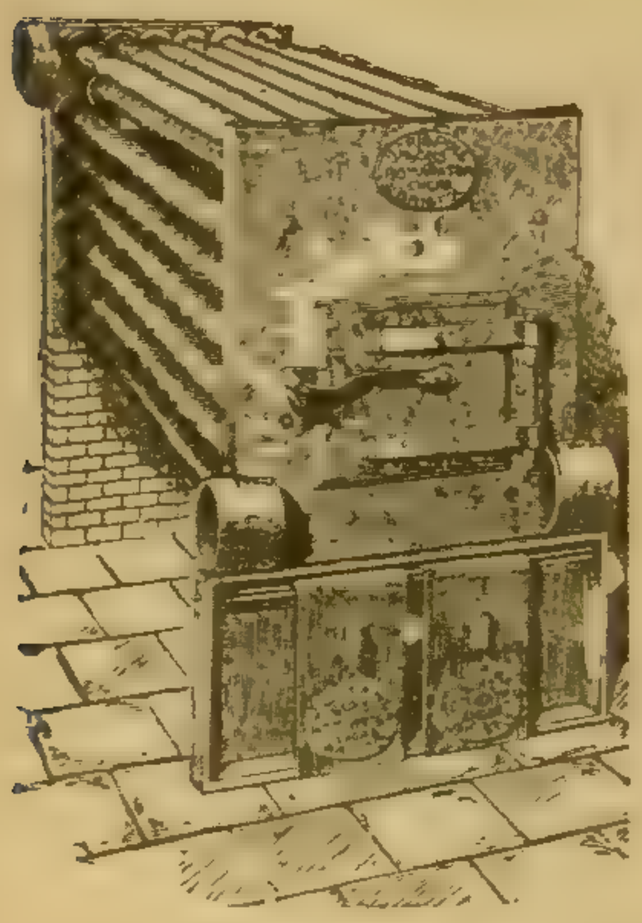

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VOL. IX.] *SEPTEMBER*, 1901. [No. 105.

DIES ORCHIDIANI.

THE introduction of leaf-mould as a compost for Orchids would seem to be an event of considerable importance, to judge from the account given at page 250 of your last issue, and if all that is claimed for the new compost proves true, I can quite understand the remark that Orchid culture will be practically revolutionized. Perhaps one can hardly call it "new," for it has been in use now for several years, and has been frequently recommended, though a good many growers have hesitated to adopt it, or only tried a few common things in it by way of experiment. A few growers, however, have used it on a larger scale, and I have several times seen plants either potted entirely or partly in it, which seemed as healthy and vigorous as could possibly be wished, and it has been remarked that there are now many thousands of Orchids in the country thriving splendidly in Belgian leaf-mould (*terre bruyère*). May they continue to thrive so! It will at all events be interesting to "watch what developments follow when the more general use of leaf-mould for Orchids has been widely advocated."

Some time ago the use of polypodium fibre was strongly advocated as a potting material for Orchids, and I believe it is still much used in some localities, though it has not been generally adopted as a substitute for peat, as some sanguine people prophesied, but whether this arises from any fault in the materials, or because they are not so generally accessible, is not clear. I have heard both reasons alleged. Then I once saw the use of willow roots highly recommended as a substitute for peat, the material to be mixed with sphagnum moss in the usual way. It was, I think, claimed that perfect drainage was secured, that the fibre retained a sufficiency of moisture but did not turn sour, and that the roots of the Orchids penetrated it and

grew freely. But I never heard any more about it. I remember, however, that in this case the question of accessibility came in, for the willow roots had to be cut regularly to prevent them from choking a small stream.

Not long ago also I remember someone pointing out that certain Orchids for which yellow fibrous loam was supposed to be the correct thing would grow equally well in black peat, and I think he asked, "What, after all, is the difference? One is yellow and the other black." Indeed one is almost inclined to ask, "What's in a compost?" and to wonder whether an Orchid would not grow in any compost, provided that the treatment was correct in every other respect.

But I believe that there is something in the question of compost, just as there is something in the requirements of a plant, or in its likes and dislikes, or the way in which it has adapted itself to the conditions under which Nature has placed it until those conditions become essential almost to its very existence—whichever way you may prefer to have so perfectly obvious a fact stated. True, it is sometimes difficult to find out what are the requirements of certain plants, because they seem to thrive under apparently quite diverse conditions—and if so, so much the better for the grower, unless he takes too great liberties with them, when he will soon find out that they have requirements, which cannot be neglected with impunity. But some Orchids are much more exacting, and the grower has sometimes a great difficulty in finding out what their requirements are, and how to supply them. And in the case of these exacting Orchids the difficulties, sometimes, at all events, come under the heading of compost.

A compost usually serves two or three different purposes. First it forms a kind of foot-hold for the plant—a medium to which it can anchor itself by means of its roots—and it provides the great food supply of the plant. It also serves by its texture and composition to regulate the amount of moisture supplied to the roots. In the case of humus-loving plants—under which heading the great majority of Orchids must be included—the food supply is obtained from the gradual decay of the vegetable materials in the compost. Should the decay be too slow, the food supply may be deficient, but if too rapid it may be exhausted too soon, or part of it may get down and choke the drainage, rendering the remainder water-logged and sour, so that the roots of the Orchid may decay, and the plant suffer in consequence. This latter seems to be the chief danger to be apprehended from the use of leaf-mould, but if this material furnishes a ready source of the necessary food supply, our growers will certainly be able to overcome the mechanical difficulties involved, either by mixing it with some slowly

decaying fibre, or with some porous materials, as broken potsherds, charcoal, &c.

Then again, it need not be anticipated that the new compost will prove equally suitable for all kinds of Orchids. I think there is sometimes a tendency to reduce Orchids too much to a dead level in the matter of compost, or at all events to treat certain kinds in a way that they are not accustomed to in a wild state. For most of the terrestrial Orchids which we cultivate, a liberal admixture of leaf-mould in the compost should prove just the right thing, also for many epiphytic kinds which grow upon accumulations of decaying vegetation in the forks and on the branches of trees, as many Odontoglossums ; but for those which produce a large number of aerial roots it may not prove so suitable. I think those who have tried the new compost for some time should give us the benefit of their experience.

Another little note on the incongruous in nomenclature has just reached me :—"Of all the grotesque absurdities of nomenclature," writes L. B. in *American Gardening* for July 27th (vol. xxii., p. 520), "commend me to 'Cattleya Mossiæ var. Shamrock II,' which was lately given an Award of Merit in London. One naturally looks for queer names in Orchids nowadays, but this is too unreasonable. Shamrock II, as applied to the new cup challenging yacht, is good, very good, but transferred to a Cattleya is meaningless and inappropriate." I am no advocate of such names, and should like to see all varietal names limited to a single word—which might be descriptive of some peculiarity in the variety, or commemorative of its introducer, or owner, or of the gardener in charge of the collection in which it appeared—and although I do not consider the above pilloried example worse that some others which have recently appeared, I wish it could be agreed to rule such names out of court altogether. While they continue to be recognized their number seems certain to increase, whether meaningless and inappropriate or not.

Not long ago we had a discussion on the registration of varieties, and the following has just caught my eye (*Amer. Gard.*, vol. xxii., p. 536) :—

NEW PLANT REGISTERED.

By the Society of American Florists and Ornamental Horticulturists.

CATTLEYA MOSSIÆ VAR. EVELYN SLOANE.—Flower pure white, with yellow blotch on lip, very faint flush of mauve colour on lower portion of lip ; bold flower, finely fringed ; originated at Wyndhurst, Lenox, Mass. By Alfred J. Loveles, Lenox, Mass. W. J. Stewart, secretary.

This seems pretty concise and explicit, but I fancy that I have seen this variety before. In any case I gather from a recent note (*ante*, p. 204) that at least 157 varieties of C. Mossiæ have already been named, and it would be interesting to know what steps were taken to compare this addition to the list with existing varieties before registering it as new. It illustrates one of the difficulties which must crop up in connection with any effective registration scheme, which is the chief reason why I call attention to it. My own impression is that there is not much room left for new varieties of C. Mossiæ.

A correspondent, alluding to the recent dispute about Odontoglossum crispum Triomphe de Rambouillet, suggests that I should obtain an authentic flower of this variety and let us know exactly what it is like, not from the painting, but from the living flower itself. If any reader possesses a plant of this variety—the real Simon Pure—I shall be much obliged if he will send me one of the next flowers it produces, and I will see what can be done.

ARGUS.

HYBRID ODONTOGLOSSUMS.

(*Continued from vol.* viii., p. 301.)

THE Mexican natural hybrids of this genus form an interesting little group which may now be considered, and, so far as I can make out, two distinct combinations are known, namely, O. Rossii with O. maculatum, and O. maculatum with O. apterum (nebulosum), with a third doubtful one between O. Rossii and O. Cervantesii. One or two others have been suggested, but I fail to recognize them.

ODONTOGLOSSUM × HUMEANUM seems to have been the first of the series which was recognized, being described as a new hybrid as early as 1876, when its history was thus given by Reichenbach:—"When I opened the box containing the peduncle and a leaf of this plant lately, by candle-light, I immediately was struck by the similarity of the flower to O. cordatum, though lip and bracts were those of O. Rossii. Shortly after came the letter of Mr. Harry Veitch explaining its history. This gentleman was some days since visiting at Mr. Burnley Hume's place, to see the Orchids. There the novelty flowered. He writes thus:—'I could not help thinking, from the formation of the sepals and the colouring, it must be a natural cross with O. cordatum! Thus I begged the bloom and sent it to you yesterday. It is a very curious plant at any rate, and the flowers differ both in form and colouring from any Rossii I have ever seen.' I was much gratified to read Mr. Veitch had just my own feeling. . . . The flowers

are very nice, and come very near those of O. cordatum. The rhachis of the inflorescence is very much thinner, only two-flowered, and the bracts very short, one fourth the length of the stalked ovary, whitish green, not yellowish straw-colour. Sepals shorter, straight or nearly so, yellow at their ends, with cinnamon bars. Petals white, with a few (three) sepia-brown blotches at their base. Lip white, without brown blotches, not acuminate, with a yellow callus striped inside with red, and narrowed at its apex, in the way of O. Rossii. The leaf shows the peculiar venation of O. cordatum and maculatum."

I have not seen a flower of Mr. Hume's original plant, but I am inclined to think that O. maculatum, not O. cordatum, was the second parent. A plant considered to be the same, from the collection of John Riley, Esq., Hapton House, Burnley, was afterwards figured in *Reichenbachia*, when it was remarked :—"O. × Humeanum is universally considered to be a natural hybrid between O. Rossii and O. cordatum, but a comparison of the shape and structure of the flowers leads us to think that there is less of O. cordatum and more of O. maculatum in it, the characters of the latter being also observable in habit of growth." This remark would apply equally well to all the forms which I have seen, and it may be added that the narrow, acuminate, sepal-like petals of O. cordatum are notably different. Messrs. Veitch, however, who reduce O. × Humeanum to a variety of O. Rossii, speak of it as of "supposed hybrid origin, deriving its cordate lip and cinnamon-red spots from O. cordatum," adding, "the O. × Humeanum of some collections is not this, but a slight deviation from aspersum."

O. × aspersum was described by Reichenbach in 1879, as follows:—"No doubt this is a new hybrid, the third one (after Humeanum and vexativum) in this affinity, standing between Odontoglossum maculatum and Rossii. It has bulbs much like those of O. maculatum, but smaller, while the flowers are thinner in texture and as large only as those of a small O. maculatum. The bracts are broad and short ; the sepals whitish yellow, mottled inside with numerous brown blotches, and keeled on the back of the middle vein. The petals are of the same colour, but much broader, and with a few brown spots at the base. The lip is wholly whitish, and the callus at the base yellow, with brown lines. The column is green at the base, white above ; the border of the stigmatic hollow rose-coloured. The short, broad bracts and the short sepals exclude the idea of O. cordatum (so much resembling those of O. × Humeanum). The white lip and the blotches of the sepals belong to O. Rossii. . . . For this very curious novelty I have to thank Messrs. Veitch, who sent full materials."

Odontoglossum × Youngii was described, in 1889, by the late Mr. Gower, and figured in the *Orchid Album*, as a new and distinct species from the collection of Reginald Young, Esq., Linnet Lane, Liverpool. It was

imported by Messrs. Shuttleworth & Co., together with O. Rossii and O. × aspersum. The author, though regarding it as a very distinct species, added:—"Some who have seen the plant in flower ascribe a hybrid origin to it, supposing it to have been derived from O. Rossii crossed with some other species." The figure shows a very remarkable flower, with short, broad, much spotted segments, but curiously enough, when the plant flowered again two years later, it had developed into the ordinary form of O. × aspersum, showing that the first flowers were quite abnormal.

The foregoing seem to be forms of one variable hybrid, of which many plants are now known, and the following are the references to figures and descriptions:—

Odontoglossum × Humeanum, Rchb. f. in *Gard. Chron.* 1876, v., p. 170: *Reichenbachia*, ser. 1 ii., p. 75, t. 82; *Cogn. et Goossens Dict. des Orch.*, Od., t. 7.

O. Rossii var. Humeanum, *Veitch Man. Orch.*, i, p. 65.

O. × aspersum, Rchb. f. in *Gard. Chron.*, 1879, xi., 266; *Orch. Album.* vi., t. 245.

O. Rossii var. aspersum, *Veitch Man. Orch.* i, p. 65.

O. Youngii, Gower in *Garden*, xxxvii, p. 84; *Orch. Album*, ix., t. 406; Rolfe in *Gard. Chron.*, 1891, x., p. 670.

ODONTOGLOSSUM × VEXATIVUM appeared in the same year as the preceding, and was described by Reichenbach, as follows:— "This is most probably a natural hybrid. When one sees the very large inflorescence, with the spathaceous bracts and the wide flowers, broad horse-chestnut-brown sepals and much broader blunt acute white petals, spotted with certain nearly olive-green spots at the base, one thinks of Odontoglossum nebulosum. The blade of the lip is also like it, being broad, semi-ovate, blunt, acute, white, with a few olivaceous spots. The callus, however, is that of Odontoglossum maculatum, its anterior process being long, narrow, bidentate, with a blunt keel on its middle line, yellow, with small red blotches. The side view of this callus is quite unlike that of Odontoglossum nebulosum. The white column is clavate, wingless, as in both the species mentioned, covered with a light tomentum. The plant itself is just intermediate between the two species. The bulbs are pallid, as those of O. nebulosum usually are, yet not so much convex and narrower. The leaves are more like those of O. nebulosum, wanting the interesting nervation of those of Odontoglossum maculatum. It is one of the special curiosities of Lord Londesborough's garden. I had last spring a fresh spike through Messrs. Veitch, and obtained in October last another fresh spike, and an old dead bulb and leaf, through Mr. Denning's kindness, at my second visit to the wonderful collection at Coombe Lane, near Surbiton."

In 1888 Reichenbach described Odontoglossum maculatum Duvivieri-

anum as a new variety, remarking:—"This appeared among numerous specimens of Odontoglossum maculatum. It has lemon coloured sepals and petals, all spotted with brown, and a whitish-yellow lip, spotted with some reddish-brown, which has a very light hue of sepia. The callus and bracts, and shape of the lip, prove it to be O. maculatum, not O. cordatum, though the sepals and petals are rather long. I had a fine inflorescence, with six quite fresh large flowers, kindly sent me by M. L. De Smet-Duvivier, Mont St. Amand-les-Gand." It was afterwards figured in *Lindenia*, as O. Duvivierianum, with the remark that it appeared to be "a natural hybrid between O. maculatum and O. nebulosum." This remark is quite borne out by the figure, and I therefore consider it a form of O. × vexabile. The following are the references to descriptions and a figure:—

Odontoglossum × vexativum, Rchb. f. in *Gard. Chron.*, 1876, vi., p. 808.

O. maculatum var. Duvivierianum, Rchb. f. in *Gard. Chron.*, 1888, iv., p. 352.

O. × Duvivierianum, L. Lind. and Rod. in *Lindenia*, v., p. 55, t. 218.

ODONTOGLOSSUM × WARNERIANUM dates from a still earlier period, having been described by Reichenbach in 1864, though as a new species, and although its hybrid origin was afterwards suspected, its parentage has been a matter of uncertainty down to the present time. Its author originally described it as a new species, from the collection of R. Warner, Esq., of Chelmsford, allied to O. maxillare, Lindl., with flowers as large as those of O. nebulosum, Lindl., but shortly afterwards he remarked:—"This pretty plant might be called a connecting link between Odontoglossum nebulosum, Lindl. and O. Rossii, Lindl. It has the slender, narrow pseudobulbs of the last, and the broad petals of the first." Mr. Warner, in figuring it, added "the plant is supposed to be a native of Mexico, but nothing positive is known as to its history or introduction. It flowered, first, we believe, in our collection several years ago." Mr. Bateman, who, of course, regarded it as a species, of the affinity stated, was unable to add anything to the above information except that it had "also flowered with the late Mr. Cauty, of Liverpool, who kindly sent me the specimens from which the figure was prepared, but these were smaller and less rich in their colouring than those of Mr. Warner." Lastly, Messrs. Veitch, who reduced it to a variety of O. Rossii, remarked that it was "a very distinct form, probably of hybrid origin."

The plant is clearly allied to O. Rossii, though quite distinct, but I cannot trace the resemblance to O. nebulosum. That species has much larger pseudobulbs, each bearing two much longer leaves, and the resemblances in the flower, with its curved claw to the lip, do not seem to be more marked. There is a closer resemblance to O. Cervantesii, especially

in the small monophyllous pseudobulbs, and the colour of the flower with a few transverse bars at the base of the segments, though I do not trace the linear-oblong bracts nor yet the rounded column wings of the latter, so that the origin of the plant remains doubtful, and it may yet prove to be a local form allied to O. Rossii. The following are the references to descriptions and figures:—

Odontoglossum × Warnerianum, Rchb. f. in *Bot. Zeit.*, 1864, p. 297: *Gard. Chron.*, 1865, p. 579, with fig.; *Warn Sel. Orch.*, ii., t. 20; Batem. Monogr. Odont., t. 13, fig. 1.

O. Rossii var. Warnerianum, *Veitch. Man. Orch.*, i., p. 65.

R. A. ROLFE.

(To be continued.)

GONGORA CHARONTIS.

IT IS interesting to note the re-appearance in gardens of a long-lost species. Gongora Charontis was originally described by Reichenbach in 1877, from dried specimens which were collected in New Grenada by Gustav Wallis (*Linnæa*, xli., p. 110), and was introduced to cultivation some years later by Mr. Bull, through his collector Mr. Shuttleworth, when Reichenbach again noted it (*Gard. Chron.*, 1877, vii., p. 684), as follows:—"A strong, big, rounded, shining bulb, with great leaves, and producing a hairy spike with numerous gay flowers. Sepals and small petals yellow, spotted with brown. Lip white, its apex and basilar wings rich yellowish, spotted with crimson, as is the white column. The flowers are half the size of those of old G. atropurpurea. It was discovered long since in New Grenada by Mr. Gustav Wallis; it has, however, only reached Europe in a dried state, and I had not the least idea of its gay appearance (gay, of course, for an old-fashioned Orchidist who does not confine his love to flowers of one-third of a foot in diameter, painted in white, scarlet, purple, or crimson). I saw it in April at Mr. Bull's nursery, where it had been sent by Mr. Shuttleworth from New Grenada." In the technical description it was noted as allied to G. scaphephorus, Rchb. f. and Warsc., but the flowers smaller and the hypochil of the lip aristate. Until now I have only known the species by description, but a Colombian species which has just flowered with Mr. F. W. Moore, at the Royal Botanic Garden, Glasnevin, agrees so well that I believe it represents the lost plant, especially as it is the only species of this section of the genus which I had not previously seen. The hairy scape would be anomalous in the genus, but the puberulous appearance seems to me due to innumerable crystal-like bodies in the epidermis of the scape. I have only seen the scape, which has been sent to Kew for determination.

R. A. ROLFE.

CULTURE OF LÆLIA GRANDIFLORA (MAJALIS) AT BRIDGE HALL.

We recently gave some particulars respecting this beautiful species and its variety alba (p. 202), and now we have received two beautiful photographs, showing the typical form, as grown in the collection of O. O. Wrigley, Esq.,

FIG 35. LÆLIA GRANDIFLORA.

Bridge Hall, Bury, by Mr. Rogers, together with the following cultural note. One photograph shows a single plant, bearing four fine flowers, the other a small group, which latter we have much pleasure in reproducing, as it shows the great beauty of the species when successfully grown. The photograph, we believe, furnishes another example of Miss Wrigley's skill with the camera, and the cultural particulars have been given by Mr. Rogers, both

of whom must be congratulated on their success. Mr. Wrigley writes:—"A dozen plants were purchased in March, 1900, from Messrs. F. Sander & Co., and out of these only one flowered during the following summer. The same plant has bloomed again this year, and was in flower on August 2nd. During the course of the present summer seven other plants have bloomed, two of the plants carrying four flowers each, the total number of blooms this summer being fifteen. The cultural treatment was as follows:—When the plants were received they were placed in shallow pans of suitable size, and these pans were filled three parts full with clean crocks, and the plants wedged in with a little fibrous peat and sphagnum moss. The plants were then hung in an Intermediate House until the growths were three-fourths made, which was some time in July. The plants were then removed into a cooler house, where they got all the sun and air possible. After August the plants were allowed no water, until they again commenced to grow, about the following April, when they were watered freely during the whole of the growing season. The houses in which the plants have been grown and rested face south-west, and the temperature during the resting period ranged from 40° at night to 50° in the day."

CATTLEYA × WILSONIANA.

THIS is one of three or four curious natural hybrids which were described some years ago by Reichenbach and then appear to have been quickly lost sight of. It was described in 1877 (*Gard. Chron.*, 1877, viii., p. 72) as follows:—

"CATTLEYA WILSONIANA, *n. sp.* (*n. hybr.?*).—This elegant Cattleya has flowered twice in the garden of Mr. John H. Wilson, Liverpool. It has been discovered by Mr. E. Dukinfield Jones, who gathered it in company with the old C. bicolor, Lindl. There is not much doubt left that it ought to be regarded as a natural hybrid between this and perhaps C. intermedia, Grah., since neither the colour nor the asperities of the lip remind me of C. guttata, Lindl., whose growth it nearly has. The best shoot is more than one foot high, according to a sketch sent by its discoverer. No doubt there was a spathe, but I did not obtain one. The flower is equal to that of a well developed C. bicolor. The sepals and petals are of a beautiful deep purple; the lip white, with a yellow blotch at the base, a violet disc in front, and violet angular side laciniæ. The anterior lamina, excepting its white claw, is of a very rich, beautiful, purplish hue. The column is of a light whitish purple. It is named in memory of Mr. John H. Wilson, at the wish of the discoverer, Mr. Dukinfield Jones."

It seems quite probable from what is known of the distribution of C. bicolor and C. intermedia that they grow together, either in the province of

Rio de Janeiro or Minas Geraes, where both species are found, but a hybrid between them would scarcely have deep purple sepals and petals, and I am inclined to suspect that C. Harrisoniana was the second parent. We have evidence that it grows with C. intermedia and C. Forbesii, so that there does not appear to be any geographical difficulty. In a short Latin description it is added that the petals are much broader than the sepals, and this again is not suggestive of the narrow-petaled C. intermedia. Hybrids of C. bicolor usually have small side-lobes, much shorter than the column, but there is no allusion to this point in the description, unless the remark that they are triangular bears this interpretation. There seems, however, no reason to doubt that C. bicolor was one parent. It would be interesting to know if the original plant is still in existence, or any drawing of it. I have not yet succeeded in matching anything with the description, which suggests that the hybrid must be very rare in a wild state.

There is a second natural hybrid which should be compared with the preceding were the necessary materials available, namely Cattleya × sororia, which appeared about ten years later, and was described by Reichenbach as follows (*Gard. Chron.*, 1887, i., p. 40) :—

"CATTLEYA × SORORIA, *hybr.*—This was kindly sent me by Mr. B. S. Williams, who informs me it was introduced from Brazil, and that it has the growth of Cattleya bicolor. I hope to be forgiven for my keenness in declaring it a hybrid, which, indeed, is a guess. The flower looks like a good extra-strong flower of Cattleya Harrisoniæ, and has greenish-yellow tips to the sepals. There are small, very much darker spots on the petals, more numerous inside than outside. The lip suggests undoubtedly the impression of that of Cattleya Walkeriana. The side laciniæ are cut in a similar manner, and do not fully cover the rather broad column. They project into a short stalk, narrow in front, and the anterior lacinia is triangular, retuse, emarginate (or trapezoid), with small lobules at the sides. It is white, with the lightest purple at the margin, and a few dark purple lines at the base: there are also some purple spots on the stalk. There is an accumulation of asperities on the disc of the anterior lacinia, which reminds one of Cattleya guttata. Column strong, white, with some purple lines in front and some yellow at the base. I cannot help thinking of Cattleya Walkeriana, from the appearance of the lip and then of Cattleya guttata. Mr. B. S. Williams has sent me several times fine varieties of the first species, so that he has command of a hunting ground whence to obtain it. It is none of those numerous novelties raised at the Royal Exotic Nursery of Messrs. Veitch & Sons, by Messrs. Dominy and Seden. Only Cattleya × Brabantiæ is comparable to it in its lip."

Soon afterwards it was figured in the *Orchid Album* (vol. vii., t. 307) the authors remarking :—

"It was imported by us from Brazil with other Cattleyas of similar growth, such as C. bicolor, C. velutina, &c., &c. It appears to be a rare plant, as the specimen here figured is the only one we have seen, and which flowered in the Victoria and Paradise Nurseries in the month of July of last year, and again in the early part of the present year, upon which occasion it was named by Professor Reichenbach and described in the *Gardeners' Chronicle*. In all probability there will be many new forms found in the locality whence C. sororia was obtained, as several species are found in the same district, thus affording an opportunity for various members of the insect world to cross-fertilize them, and thus originate new varieties."

On making a careful comparison with the help of a flower from the Right Hon. Joseph Chamberlain, M.P., I have come to the conclusion that the parents were C. bicolor and C. Harrisoniana. The colour of the flower closely approaches the latter, and the shape is just what would be expected from such a combination, including the small side lobes, which show the result of a compromise—these organs being totally wanting in C. bicolor. It is this character which gives the resemblance to C. Walkeriana, but other characters are so different that the suggestion of its origin from the inter-crossing of the latter species must be given up. The reference to the occurrence of C. velutina in the same batch fixes the habitat as the Province of Rio de Janeiro, and the chief remaining doubt is whether C. × Wilsoniana was also derived from the same parentage. I think this is probable, for the differences mentioned are slight, and hybrids are notoriously variable. I hope the doubtful point may soon be cleared up.

R. A. R.

CULTURE OF ORCHIDS IN LEAF-MOULD.

THE note respecting the cultivation of Orchids in leaf-mould given at page 250 seems to have awakened a good deal of interest, and one correspondent requests us to give further details of the method of treatment, particularly with respect to the preparation of the leaf-mould, what tree leaves to use, whether it should be chopped or broken up, and whether to use it alone or mixed with either peat or sphagnum—in short what are the peculiarities of the treatment as compared with what has come to be regarded as the usual treatment.

We should be glad if Messrs. Charlesworth would furnish us with a few details on the subject; meantime we give a few notes of what has already been published, which may come in useful to those who desire to collect the necessary leaves for experiment during the coming autumn.

Leaf-mould varies considerably in its properties according to the kind of leaves of which it is composed. Soft leaves, as those of the sycamore or horse-chestnut, are not suitable, as they decay too quickly, and the Belgian leaf-mould (*terre bruyère*) which is used so successfully for the culture of many plants is largely composed of hard leaves, which decay rather slowly. Mr. A. H. Prehn, in an article on "Orchid culture in Belgium" gives the following as recommended by some Belgian growers. The soil, which should be thoroughly decomposed, should consist of thirty per cent. of oak leaves, fifteen of red beach, fifteen of alder, fifteen of ash, fifteen of red beech, and ten of coarse white sand. The exact proportion of each of these elements to be applied to one or the other kind of epiphytal Orchids cannot be indicated with precision, but has to be found out by experience. The essential point in this method of culture is to place the plants as far as possible under circumstances which answer best to the natural conditions under which they are found in a wild state, and to water very carefully, avoiding every excess, as this compost is more retentive of moisture than the usual one of fibrous peat. As to the method of procedure, he remarks that sufficient drainage is placed in the pot, and the plant is fixed upon the soil, which is slightly elevated to form a small hill in the pot. The surface is then covered with a layer of living sphagnum. The necessary degree of moisture to retain the sphagnum always fresh is assured by syringing.—*Orch. Rev.*, viii., p. 78.

MM. Duval et fils, of Versailles, also use a compost consisting largely of leaf-mould, and with great success, several houses being devoted entirely to Orchids, and M. Beuchel, *chef de culture* of the establishment has communicated to *Die Gartenwelt* particulars of the treatment.

The compost used is a fibrous forest soil, consisting chiefly of half-decomposed leaves, and it is used just as it arrives, without intermixture with sand or any analagous substances. It is best to reject the fine earth which falls out when the large pieces are broken up, for otherwise the compost is not open enough, and therefore remains wet for too long a period, and thus causes the roots to perish. It is used both for established plants and for newly imported ones, and in much the same way as polypodium fibre.

It may also be used for seed pans, but in this case the leaves should be cut a little, and a little chopped sphagnum should be mixed with the soil, to prevent it from being carried away by the watering, and, as it is indispensable that the plants should be elevated above the edges of the pots, it should be surfaced with a thin layer of clean sphagnum, and in order that this sphagnum may hold well in its place it should be cut rather short, and moistened before putting it on.

After repotting, it is a good plan to syringe the plants several times

daily during fine weather, so as to keep the sphagnum moderately wet, and this accelerates root growth. When the young roots begin to bury themselves in the soil one can begin to water, at first moderately, increasing the amount in proportion as the roots develop. Provided that one works with some precaution, the plants push forward well and vigorously. There is no need of manure, for the soil contains in itself many more nutritive substances than does polypodium fibre.

It is necessary to carefully observe the time of rest, and particularly to see that the bulbs ripen and harden well, for these acquire, in this soil, a greater fleshiness than in polypodium and sphagnum. To secure this result it is necessary to give the plants plenty of air and sun after completion of the bulbs, and only sufficient water to prevent the leaves and bulbs from shrivelling.

Vandas, Aërides, and Angræcums prosper greatly in this soil; nevertheless, M. Beuchel does not advise this method of culture for these three genera, as they produce a vigorous vegetation, but far fewer flowers.

All gardeners have not at their disposal a soil similar to the one mentioned, but it can be easily replaced by a fibrous heather earth mixed with half-decomposed leaves.

It is added that many of the plants thus cultivated were in a state of remarkable prosperity, particularly Cattleyas, Phaiuses, Cypripediums, Oncidiums, especially the Mexican ones, Lælia purpurata (superb), and many species of Dendrobium.

AN AUSTRALIAN HYBRID.

It is interesting to hear from the *Gardeners' Chronicle* of July 13th of an Australian hybrid Orchid. It is described and figured as Cymbidium Lowianum × eburneum (1901, xxx., p. 25, fig. 10), as follows:—"Although crosses have long been known in Europe between C. Lowianum and C. eburneum, in which both have figured as the seed-bearing parent, the one which we illustrate . . . . is the first, so far as our knowledge goes, of a cross raised and flowered in Australia. According to information kindly furnished by Messrs. F. Sander & Co., of St. Albans, the seed of artificially fertilized flowers was sown by Mr. Godwin, gardener to John Hay, Esq., of the Crow's Nest, North Sydney, in the month of July, 1896; and a plant of this sowing flowered in April of last year. As Mr. Sander remarks, 'it is evident that the climate of Australia is favourable to the raising of Orchids; and, in fact, in this particular instance, a record is established in rapid growth.' The flowers measured $5\frac{1}{2}$ inches across, which is quite equal to the standard size."

THE HYBRIDIST.

PAPHIOPEDILUM × KUBELE.

IN an account of the collection of Reginald Young, Esq., Sefton Park, Liverpool, given in these pages about two years ago, we alluded to some seedlings between Paphiopedilum × œnanthum and P. × Youngianum as a hybrid "which should be interesting, because containing five species in its ancestry." Two of the plants have now flowered, and prove as beautiful as they are interesting, examples of both having been sent by Mr. Young, who thus gives the history of the hybrid:—P. × œnanthum superbum ♀ × P. × Youngianum ♂; crossed 8th August, 1894; seed sown 13th June, 1895; seedlings discovered 20th August, 1895; flowered for the first time July, 1901. Its ancestry is shown in the following table, the fractions in the left hand column showing the proportions in which the original species are represented in the hybrid) :—

(⅛) villosum ♀
(⅛) barbatum ♂ } × Harrisianum ♀
(¼) insigne Maulei ♂ ... ... } × œnanthum superbum ♀
(¼) philippinense Roebelenii ♀ ...
(¼) superbiens ♂ ... ... } × Youngianum ♂ ... } × Kubele.

The result of such a combination could hardly have been foreseen, but it may be remarked that, in general appearance, the hybrid most resembles P. × Youngianum, though with the addition of a number of more or less confluent spots derived from P. × œnanthum. The leaves are green, with only an obscure trace of tessellation, rather broad, and the scape at present is two-flowered, the whole habit being strong and vigorous. The dorsal sepal is broadly ovate, nearly 2½ inches long, and the ground colour palest yellow, becoming white at the apex, irregularly veined with rows of more or less confluent spots to beyond the middle. The petals are 3½ inches long, broadened to beyond the middle and narrowed at the apex, strongly ciliate, and the colour light purple, somewhat paler in the centre, and spotted with darker purple near the base. The lip is two inches long, rather broad, and the colour greenish, more or less suffused and marbled with light brown. The second seedling is markedly different, in having shorter, broader petals, more spotted at the base; the dorsal sepal much more strongly marbled, after the fashion of P. × œnanthum; and the lip darker. It is finer and richer in colour generally, and may be called P. × Kubele grandis. Mr. Young, and his gardener, Mr. Poyntz, must be congratulated on their success. Kubele, it may be added, is the name of a Greek goddess.

PAPHIOPEDILUM × BARBATO-CHARLESWORTHII.—It is interesting to note that this pretty little hybrid has again been raised. A flower of a

seedling plant has been sent by Mrs. Holland, Wonham, Bampton, Devonshire, which was raised from P. barbatum superbum and P. Charlesworthii, and, as in the preceding case (*Orch. Rev.*, vii. p. 48, viii. p. 62), the shape and colour of the dorsal sepal, the short petals, and the whitish staminode, all show strongly the influence of P. Charlesworthii. It will be a charming little hybrid when fully developed.

PAPHIOPEDILUM × RAPPARTII.—A very pretty hybrid of Paphiopedilum Charlesworthii has just flowered in the collection of D. B. Rappart, Esq., Mere Bank, Liscard, Cheshire (gr. Mr. Nicholson). The seed parent was P. × Lathamianum, and the novelty shows very plainly its descent. The dorsal sepal is roundish-ovate, slightly concave, two inches broad, rose-purple at the base and along the median nerve, becoming paler towards the margin and apex, the latter being nearly white. The petals are broadly oblong, nearly horizontal, 2¼ inches long by one inch broad, and the colour light reddish purple with darker nerves. The lip is rather shorter than the petals and lighter in colour, while the staminode is broad, flat, and almost porcelain white. Thus the shape and colour of P. Charlesworthii are strongly stamped on the hybrid, while the substance, the darker median nerve of the dorsal sepal and petals, and the glossy surface of the flower generally, are characters derived from the seed-parent. It is the first novelty which Mr. Rappart has raised, and a most promising one, being bold in shape and the substance and colour very good, and as the plant is still weak it is sure to improve. It is dedicated to Mr. Rappart, with the hope that he may soon have further successes to record.

BULBOPHYLLUM MICHOLITZII.

THIS IS a remarkable species allied to the New Guinea Bulbophyllum grandiflorum, Blume (*Bot. Mag.*, t. 7787), which has flowered for three successive years with Mr. F. W. Moore at Glasnevin, and remains constant in character. The flowers are much smaller than the species just named, and light green in colour, with a slight brownish tinge and some whitish spots on the lower half of the dorsal sepal. The latter organ measures 4 inches long by ¾ inch broad, and the lateral sepals 3 inches long by ½ inch broad. The minute triangular petals are acute and light green in colour, while the recurved lip is marked with dull purple on the front and sides, and is ciliate at the margin. The foot of the column is densely dotted all over with light purple-brown. The two other allied species are B. Cominsii, Rolfe, from the Solomon Islands, and B. longisepalum, Rolfe, (B. grandiflorum, Rchb. in *Lindenia*, iii., t. 108, not of Blume) from New Guinea, which four together form a very remarkable section of the genus.

R. A. ROLFE.

HYBRID DISAS.

THE hybrid Disas which have appeared in gardens during the past few years form, together with their parents, a very charming little group of summer-flowering plants, though they do not yet seem to be as widely cultivated as their merits deserve. The hybrids at present known are the result of intercrossing the three original species, D. grandiflora (fig. 37),

FIG. 36. DISA × PREMIER. FIG. 38. D. × KEWENSIS.

FIG. 37. D. GRANDIFLORA.

FIG. 39. D. × LANGLEYENSIS. FIG. 41. D. TRIPETALOIDES.

FIG. 40. D. × VEITCHII.

D. racemosa, and D. tripetaloides (fig. 41). D. racemosa was not available when the annexed photograph was taken.

D. × VEITCHII (fig. 40) was the first of the series, and was raised in the establishment of Messrs. James Veitch & Sons, from D. racemosa ?

and D. grandiflora ♂. It flowered for the first time in June, 1891, only twenty-one months after the seeds were sown, and received a First-class Certificate from the R. H. S. It most resembles the seed-parent, both in shape and colour.

D. × KEWENSIS (fig. 38) was raised at Kew, by Mr. Watson, from D. grandiflora ♀ and D. tripetaloides ♂, and first flowered in May, 1893, only eighteen months after the seed was sown. The flowers most resemble those of the pollen parent in shape, and the colour is rose-pink, with a paler dorsal sepal, which is prettily spotted inside with rose-purple.

D. × LANGLEYENSIS (fig. 39) was raised both by Messrs. James Veitch & Sons and at Kew, at about the same time in both establishments, from D. racemosa ♀ and D. tripetaloides ♂, and also from the reverse cross. It flowered for the first time in May, 1894, and received an Award of Merit from the R. H. S. The flowers are fairly intermediate in shape, and light rose-purple in colour, with a slight trace of spotting in some of the lighter forms.

D. × PREMIER (fig. 36) is a secondary hybrid which was raised at Kew from D. tripetaloides ♀ and D. × Veitchii ♂, and flowered for the first time in October, 1893, when it received a First-class Certificate from the R. H. S. The flowers are larger than those of D. racemosa, and rich rose-purple in colour.

There are two or three other secondary hybrids in the genus. D. × Diores (D. × Veitchii ♀ × D. grandiflora ♂), and D. × Clio (D. grandiflora ♀ × D. × Veitchii ♂) were both raised by Messrs. James Veitch & Sons, and the latter received an Award of Merit from the R. H. S. in August, 1898, and a First-class Certificate in July, 1899. It will be noted that the latter has the reversed parentage of the other, and is now considered a variety of it. D. × Watsoni (D. × kewensis ♀ × D. grandiflora ♀) was raised at Kew, where it flowered about a year ago, and is much like an enlarged and improved form of D. × kewensis, hence it has also been called D. × kewensis superba, though of different parentage. Of the remaining one, raised in the collection of H. J. Elwes, Esq., it is a little doubtful whether the parentage was D. racemosa ♀ × D. × Veitchii ♂ or D. × kewensis ♀ × D. × Veitchii ♂ (*Orch. Rev.*, vii., p. 226).

These together form a very beautiful little group, but it will be observed that most of the possible combinations have already been effected, and it would be interesting to try the effect of introducing a little fresh blood, as several other species are occasionally met with in cultivation, and it would probably be possible to unite some of them with the preceding by hybridisation if a few experiments were made.

The cultural requirements of these plants are not difficult to supply. After flowering, a short period of rest should be allowed, but even during this period enough water should be given to keep them plump and healthy

After this they will begin to grow, and the end of September or beginning of October is a good time to repot those that require it. Ordinary pots or pans should be used, which should be well-drained, as these plants require plenty of moisture throughout the growing season. A compost of rough peat, with a little well-decayed cow-manure, and a little silver sand, or broken crocks, or charcoal, forms an excellent potting material. Care should be taken to injure the roots as little as possible, and the crown of the plant should be elevated slightly above the rim of the pot. After potting, the compost may be surfaced with a little living sphagnum, and a watering of tepid water should be given to settle the whole, after which they should be removed to their winter quarters, a position near the glass in a Cool house being the most suitable. These plants grow steadily during the winter, and should always be kept moist. Coolness and moisture are essential to their well-being, and care should be taken to keep their growth as sturdy as possible, for weakly, drawn-up plants are never satisfactory. Early in the spring, as soon as danger from frost is over, they are best removed to a cool frame in a north or shady situation, where they should remain until they flower. As the spikes appear, a little weak guano-water or other liquid manure may be given with advantage. The syringe should be used daily when the plants are in active growth, and green fly and thrip must be kept down at all cost, as these insects are very injurious to them. They like a moist, airy situation, and even during the coldest weather the air in the house should be changed every day if possible. These plants are so beautiful when successfully grown that they repay any trouble which is taken to meet their requirements. D. grandiflora is often considered an intractable subject, for in some localities it refuses to thrive, while in others it grows almost like a weed. In cases of non-success it is certain that there is something wrong with the treatment, but a few judicious experiments will often lead to an improvement, if the essential conditions ar steadily borne in mind.

CALENDAR OF OPERATIONS FOR SEPTEMBER.

By H. A. BURBERRY, Orchid Specialist, King's Heath, Birmingham.

THE temperature should now be reduced in all departments by a few degrees, proportionate to that of the prevailing condition of the weather outside. Shade only during the hottest part of the day, and then no longer than absolutely necessary to prevent burning or scalding of the foliage. Ventilate as liberally as the occasion will admit, for light and air at this season are most important factors in ripening the newly-formed pseudobulbs. Damp down now rather less frequently than hitherto, but at the same time do not allow the temperature to become over-dry.

Still keep the Cool House as low as possible, both night and day. The dewy night air let in to the plants will do them an enormous amount of good. Here also reduce the shading considerably, but continue to damp down copiously ; at the same time avoid getting the compost too heavily charged with water.

In all other departments it has again become advisable to have a little fire heat at times, principally during the late night and early morning hours. I therefore advise, in order that the ripening process may proceed uninterruptedly, that a little warmth be now kept in the pipes each night, even though it may be only for a few hours, and in sunless, chilly weather during the day also.

We have now practically passed the dullest season for flowering Orchids, and their numbers will now gradually increase until November is reached, when we are assured of a grand display. Cypripedium Charlesworthii is now making a good show. It is a small and rather slow growing species, but on the other hand is very free blooming, numbers of its pretty, more or less pink and white dorsal-sepaled flowers are now to be seen. I find it does best with me in a moist and shady position in the Intermediate department. It will withstand the Cool house treatment, but does not grow nearly so well. It is especially fond of moisture, and should be kept well syringed during the growing season. Particular care is necessary when cleaning or repotting this species, as the leaves on being raised are apt to snap partly asunder near the base, and, of course, eventually die off. After blooming, the plants will remain comparatively inactive during the winter months, but should never be allowed to get very dry. Repot in early spring in the usual compost recommended for the genus, broken in small pieces and thoroughly well mixed up together. The system of placing in a lump of peat and sphagnum moss alternately is bad for all Orchids, and decidedly so for Cypripediums. C. insigne and its varieties are now pushing up spikes, and these I always find bloom much more satisfactorily when somewhat pot-bound, and when this is so a watering or two of cow or sheep manure will assist them greatly.

Vanda cœrulea is another species just now in its beauty. The Intermediate or Cattleya House seems to answer the requirements of this species better than any other, where, under exactly similar conditions to those given to Cattleyas, it usually thrives well. Unfortunately it has the reputation of deteriorating, a reputation which in most gardens is too true. I have seen it, however, last in a vigorous and healthy looking condition for a period of many years. Rational treatment, such as plenty of moisture when in full growth, a moderate supply when at rest, sufficient light, shade, and a well ventilated atmosphere—just that which grows any other plant well—is the only safe method of ensuring a long life to this

one. I have before now tried some especially careful treatment for it, but it has invariably gone off the quicker for my pains.

Two pretty little Oncidiums are now in bloom, namely O. ornithorhynchum and O. incurvum. They both grow fairly well in the Coolest house, but the Intermediate one is really the best for them. They enjoy a lengthy period of rest when blooming is past. Such Oncidiums as O. Forbesii, O. crispum, and O. varicosum, which have completed their new pseudobulbs and are sending up flower spikes, do well if now moved from their shady summer-growing quarters and placed in a house similar to that where Dendrobes, &c., are resting. They then get much light and air, which of course ripens the somewhat sappy new growth, and this takes place without interfering in the least with the growth of the flower spikes, in fact, the latter come more sturdy and strong in consequence. It is impossible to give these Oncidiums the necessary amount of resting or ripening if the process is left over until their blooming season is past, because that time is frequently as late as November, and by then, of course, it is too late.

Habenaria carnea and H. militaris, two pretty little terrestrial growing species, are very conspicuous now, and are well worth growing; after blooming is over very little water is required, as they are deciduous. They should be given a winter position on a shelf, or some such place, in a warm or intermediate temperature, and watered at long intervals and with extreme care when at rest throughout the winter, or the tubers will decay. A number of tubers in one large pot give not nearly so much satisfaction as when grown singly, or from one to three, in small but rather deep pots. The compost should consist of peat crumbled up small, with a liberal addition of sharp sand and finely broken crocks well mixed up together. Two or three small crocks for drainage is sufficient, as the tubers grow to a great length. Early in March signs of renewed growth will appear from the apex, when they should be repotted.

Dendrobium formosum, D. Phalænopsis, and allied autumn-blooming kinds, are now fast approaching completion of growth, and sending up their bloom spikes. They are well known heat-loving kinds, and must have the warmth of the East Indian house to be well grown. They will still require liberal waterings at the root, and in another month or so will repay all the trouble bestowed by a grand display of flowers. It is not absolutely impossible to grow these heat-loving kinds in intermediate temperature, as also D. Johnsoniæ and D. atroviolaceum, but they do not grow so freely nor make such long pseudobulbs, though what they do make are perfectly sound and vigorous. In fact what I have seen so grown are perfectly free from all kinds of spot and disease, and have the appearance of lasting and continuing to grow, if more slowly, which is not always the case with them when grown in great heat, and this makes me come to the conclusion that

even our hottest known Orchids can be overdone with heat when under artificial conditions, and causes me to counsel moderation.

The long-bulbed section of Cattleyas, such as C. granulosa with its variety Schofieldiana, and others of the guttata family, are invaluable kinds for blooming during the present month. Their culture is quite identical with that of other inmates of the Cattleya house. After blooming they should be allowed to gradually lapse into a resting condition, during which time they will continue to make new roots freely. They should be repotted in early spring, just as the new growths commence to push forth. To disturb a plant with such enormous pseudobulbs at this late season for purposes of repotting usually ends in a collapse, from which it is very slow to recover, because the winter closes in, naturally stopping growth action, and the plant consequently goes from bad to worse until the spring of the year, when it has gone past recovery.

Miltonia spectabilis and M. s. Moreliana are also good kinds for the present month. They delight to be cultivated in baskets or shallow pans, and suspended in considerable warmth, the East Indian house usually proving better for them than the Intermediate one. Fibrous peat with only a surface of sphagnum moss seems to suit them best as a compost. I have seen splendid examples grown on blocks of wood, suspended flatwise, or tree fern stems, and can strongly recommend their culture in that way, but still I think as a lasting quality the basket system is the best.

The whole of the Dendrobium Wardianum, D. crassinode, D. nobile, and others of the same class, should now be sufficiently advanced to remove to the resting department. The pretty white D. Dearei, D. Harveyanum, and D. Brymerianum are different from most others, and prefer to be grown standing down on the moist stage the whole season round in the Warm house. They require less water during the winter, but from my experience they do not seem to require a dust-dry rest like many others.

Vandas, Saccolabiums, Aërides, Angræcums, Phalænopses, and Bolleas will now require slightly less water, both atmospherically and at the root. Air as freely this month as is deemed safe, so as to consolidate the new foliage, thus preventing possible attacks of fungoid spots appearing later on. Avoid, however, anything in the shape of extremes, both as regard direct sunlight and draught, for these plants, or an unnecessary loss of foliage may occur.

Pleiones, having been grown in a sunny position and kept well watered, will now fast lose their foliage and push up flowers. Give a good watering a week or so prior to the flowers opening. This should suffice until the blooms have faded, if kept shady and cool. If too wet at the root when in bloom the flowers are short lived.

ORCHIDS IN SEASON.

Six beautiful forms of Odontoglossum luteopurpureum are sent from the collection of Joseph Broome, Esq., Sunny Hill, Llandudno, and are noteworthy examples of good culture. One of them is taken from a spike 4 feet 5½ inches long, which bears six branches and an aggregate of 38 flowers, and another from a plant bearing four spikes on two bulbs, with an aggregate of 112 flowers, or an average of 28 on each spike—a result on which Mr. Broome's clever gardener, Mr. Axtell, deserves to be congratulated. The others are fine examples of the species, differing somewhat in the details of the flower, with its colour and markings. Two good forms of O. × cristatellum are also sent, one much darker than the other. Mr. Broome remarks that these plants have been grown in a very cool house.

Cattleyas and Lælias are also splendidly grown in this collection, as is shown by a magnificent flower of C. superba splendens, and a very finely-developed Lælio-cattleya × Andreana. There are also flowers of C. Leopoldi and Lælio-cattleya × elegans, one of the latter being very richly coloured, and the other exceptionally large, as the petals are slightly over four inches long, with the other parts proportionately well developed. The other plants sent are a spray of the pretty Oncidium luridum guttatum, and a flower of the rare Odontoglossum purum.

A very fine form of Cattleya Leopoldi is sent by the Brighton and South Coast Horticultural Company, Exotic Nursery, Worthing. This species is a very useful summer-blooming kind, as when well grown it produces large trusses of its handsomely spotted flowers, which are exceedingly effective.

A pretty form of Lælio-cattleya × elegans is sent from the collection of John W. Arkle, Esq., Holly Mount, West Derby, Liverpool. It is from a small imported plant, purchased three years ago, and now flowering for the first time.

A flower of a finely shaped, well-blotched form of Odontoglossum × Denisonæ is sent from the collection of Sir Trevor Lawrence, Bart., Burford, Dorking, by Mr. White. The ground colour is white, and thus it looks at first very different from the forms with a yellow ground. It was purchased in flower in 1883, at a sale by Messrs. Protheroe & Morris, as a distinct species.

Thunia alba has of late years been superseded in cultivation by the more handsome T. Marshalliana, but a good example of the former, having the lip prettily pencilled with lilac, has been sent from the collection of Wm. Bazeley, Esq., Twyford, Berks.

EPIDENDRUM OBLONGATUM.

A VERY pretty Epidendrum has flowered two or three times in the collection of the Right Hon. Joseph Chamberlain, M.P., also a plant presented by him to Kew has now flowered in that establishment, and these, I believe, belong to the above imperfectly known species. E. oblongatum is a Cuban species, which was described and figured by A. Richard, in 1853, from dried specimens (*Fl. Cub.* iii., p. 239, t. 80). The author remarked that it was very nearly allied to E. phœniceum, Lindl., except that the front lobe of the lip was considerably smaller. In 1848 a West Indian plant which flowered in the establishment of M. L. Van Houtte, at Ghent, was figured and described by Lemaire as E. phœniceum var. vanillosmum (*Fl. des Ser.*, t. 306), which seems to have the same essential character. Lindley, in his *Folia Orchidacea*, adopted Lemaire's variety, but reduced E. Grahami, Hook. (*Bot. Mag.*, t. 5885), a Mexican species which has been described in 1842, to a synonym of it. A. Richard's name was presumably not published in time for inclusion in the *Folia*, for it is not mentioned there, and both bear the date 1853 on the title-page. The Mexican plant, however, seems to represent a distinct species, and has rather long sepals and petals, suffused with dusky brown at the apex, a white lip veined with rose, and various technical differences. E. phœniceum is a well-known Cuban species, having vinous-purple sepals and petals, and the front lobe of the lip very large, undulate, and bright purple, with some darker veins on the disc. The remaining species, E. oblongatum, A. Rich., which, I believe, must include E. phœniceum, var. vanillosmum, Lemaire, has the front lobe of the lip much smaller, and the words, "brunneo-vinosis," used by A. Richard to describe the colour of the sepals and petals, are applicable to Lemaire's figure. The colour of the lip is not described by the former, but the figure shows it as white with some deep purple stripes on the disc. The Kew plant has the sepals and petals suffused with reddish brown on a yellow ground, the acute side lobes of the lip light purple with darker veins, and the front lobe pale lilac with numerous purple nerves along the centre. Mr. Chamberlain's plant has the sepals and petals deep yellow, and the nerves of the lip darker in colour, confluent into a blotch on the disc, which shows that there is a certain amount of variation in colour. The pseudo-bulbs are ovoid, oblong, rather small, and bear one or two oblong leaves, 7 to 8 inches long by an inch broad, and the scapes are about 1½ feet high, and somewhat branched near the apex. The re-appearance of the species is interesting, and it may be added that there are several Cuban Epidendrums which are very imperfectly known, and that even the handsome E. phœniceum and E. replicatum seem to have been quite lost sight of in gardens.

R.A.R.

RHYNCHOSTYLIS RETUSA VAR. GUTTATA.

WHEN figuring a form of this handsome species—better known in gardens under the name of Saccolabium guttatum—the late Mr. Warner remarked (*Sel. Orch.*, ii., t. 18) :—"One cannot but regret the absence from our great London exhibitions of remarkably fine plants such as were seen exhibited at the time of the Chiswick shows. There Saccolabiums were frequently seen with from five to ten spikes of blossoms, or even more, on the same plant, and those who were in the habit of visiting these Gardens at the time referred to often speak with regret of the absence of such remarkable specimens from the exhibitions of the present day." The present specimen is equal to the best spoken of in the above note, for it bears thirteen spikes,

FIG. 42. RHYNCHOSTYLIS RETUSA VAR. GUTTATA.

and forms a charming little picture. It was grown by Mr. Tyson, gardener to Dr. T. R. Jessop, Roundhay Mount, Leeds, and gained the First Prize for a single specimen at the Leeds Show in 1898. The previous year it bore twelve spikes, and received a Cultural Commendation from the Committee of the R. H. S. at the York Gala.

Rhynchostylis retusa is a widely diffused and variable plant, if the different forms now included under it are all forms of the same. It is found almost throughout Hindostan wherever the conditions are suitable, in Ceylon, in the provinces of the eastern peninsula—especially in the plains of Lower Burma—and in Java, where it is said to be common, and to have established itself in immense numbers in the Teak plantations formed by

the Dutch in that colony. The Javan plant may be considered as the type of the species, being the one originally described by Blume. The variety guttata has been known ever since 1820, for Dr. Lindley states that he saw in Sir Joseph Banks' library in that year a specimen in full flower that had been sent from the Royal Gardens at Kew. Ten years later a plant was presented to the Horticultural Society of London by Dr. Wallich, which flowered at Chiswick in 1831, since which period it has continuously been represented in British Orchid collections.

A graphic account of the plant as seen in its native jungles in South India was communicated to *The Garden* in 1890 (xxxviii., p. 607) by "J. L.," who remarks:—"In Malabar it mostly affects the jungle and marshy banks of sluggish-flowing rivers thick with trees of low stature and thorny undergrowth, composed of Solanum ferox, spiny acacias, and the like, where croak innumerable frogs, speaking eloquently of malaria, ague, and fever, and where crawls the deadly cobra, and where other reptiles and insects of strange appearance are abundant. In the midst of such surroundings, pendant from the branches of trees, may be seen the charming blooms of the Saccolabium (Rhynchostylis) spreading a fragrance around which compels the explorer to linger in the locality, even at the risk of subsequent attacks of jungle fever. Curiously enough the plants are never found in groups, but singly, with long distances between the individual plants. They come into flower during September and October, or immediately after the south-west monsoon rains cease, and from that date till the first spring flowers fall, in March or April, these epiphytes enjoy complete rest. They are throughout nearly the whole of this period of rest more or less protected from the east winds which prevail for so many months, and they are under the influence of dense fogs during the night and early morning. During the prevalence of the south-west monsoon, which is their growing season, the temperature rarely falls below 70° Fahr., that is when the sky is cloudy and the rain is pouring in torrents, perhaps for three or four weeks at a time. From the end of October till the end of April, the season of rest, the thermometer frequently falls in the night and early morning to 48° Fahr., so that the range of temperature under which they live in Southern India is considerable."

As regards culture, it may be added that the plant likes a position in the East Indian house, and succeeds in a teak basket, in which should be placed some largish pieces of broken crocks, with sphagnum moss between the interstices, and a surfacing of the same material. Abundance of water should be given during the growing season, but, when resting, only sufficient to keep the sphagnum alive. A healthy atmosphere is most important, as the plant makes an abundance of aerial roots, and care should be taken to keep the leaves clean and healthy.

SOCIETIES.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

A MEETING of this Society was held on July 18th, at the Coal Exchange, Manchester, when, as usual at this time of year, the exhibits were not numerous. Seven awards, however, were made.

G. W. Law-Schofield, Esq., New Hall Hey, Rawtenstall (gr. Mr. Shill), received a First-class Certificate for a fine example of Cypripedium × l'Ansoni, a handsome hybrid derived from C. Rothschildianum and C. × Morganiæ.

The Hon. Mrs. Bass, Byrkley, Burton-on-Trent (gr. Mr. Nisbet), exhibited Cattleya Gaskelliana var. Mrs. Hamar Bass, which received an Award of Merit, and a well-grown plant of Odontoglossum crispum Needwood variety, to which a Cultural Certificate was given.

J. Richardson, Esq., Altrincham, received an Award of Merit for Cattleya gigas var. J. Richardson, a handsome form.

Messrs. Charlesworth & Co., Heaton, Bradford, were awarded a First-class Certificate for a fine example of Acineta Hrubyana, a species rarely met with in collections.

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, exhibited Cypripedium × Kimballianum, Low's var., a handsome natural hybrid, which received an Award of Merit.

Messrs. F. Sander & Co., St. Albans, obtained an Award of Merit for Cattleya × Marriottiana (C. Eldorado ♀ × C. Warscewiczii ♂).

(No meeting was held during August).

ROYAL HORTICULTURAL.

A MEETING of this Society was held at the Drill Hall, Buckingham Gate, Westminster, on August 13th, on which occasion the Orchid Committee had very few exhibits to attend to, and no awards were made. There were present of the Orchid Committee:—H. J. Veitch, Esq., in the chair, and Messrs. H. J. Chapman, W. Cobb, De B. Crawshay, J. Douglas, E. Hill, H. M. Pollett, and W. H. Young.

Sir J. Miller, Bart., Manderston, Duns., N.B. (gr. Mr. Hamilton), sent a hybrid between Lælia tenebrosa and Cattleya granulosa Schofieldiana, bearing a general resemblance to Lælio-cattleya × elegans, though differing in various details of the flower.

J. S. Moss, Esq., Bishops Waltham (gr. Mr. Kench), sent a cut flower of Lælia × Iona (tenebrosa × Dayana).

Colonel M. A. Swinfin-Bown, Swinfin Hall, Lichfield (gr. Mr. Collyer), exhibited a pretty variety of Cattleya Eldorado, having white flowers slightly flushed with pink on the sepals and petals.

T. W. Thornton, Esq., Brockhall, Weedon, sent a pretty variety of Lælio-cattleya × Atalanta (C. Warscewiczii × L.-c. × elegans).

Messrs. James Veitch & Sons, Royal Exotic Nursery, Chelsea, sent a small but excellent group of Orchids, and received a Vote of Thanks. It contained three fine varieties of Cattleya × Atalanta (Leopoldi × Warscewiczii), differing somewhat in shape and colour. C. × Niobe (Aclandiæ × Mendelii), a pretty hybrid with cream-white sepals and petals, bearing some minute purple spots, the front lobe of the lip bright purple, the side lobes white, and the disc yellow; L-c. × Nysa (L. crispa × C. Warscewiczii), L.-c. × Parysatis (L. pumila × C. Bowringiana), and Lælia × splendens (crispa × purpurata).

A SECOND meeting was held on August 27th, when the exhibits were more numerous, and several of them received awards. The members of the Orchid Committee present were:—H. J. Veitch, Esq., in the chair, and Messrs. T. W. Bond, H. J. Chapman, De B. Crawshay, J. G. Fowler, E. Hill, H. T. Pitt, F. J. Thorne, and H. A Tracy.

H. T. Pitt, Esq., Rosslyn, Stamford Hill, N. (gr. Mr. Thurgood), received a Silver Banksian Medal for a fine group of Orchids, including Miltonia spectabilis, Oncidium Lanceanum, Cypripedium × Nellie (tonsum × Charlesworthii), a very fine form of C. Spicerianum, C. Curtisii, an unnamed hybrid between C. × Harrisianum and C. × Chapmanii, Lælio-cattleya × elegans var. Emperor, L.-c. × broomfieldiensis, L.-c. × callistoglossa, Vanda cœrulea, and a few good Odontoglossums.

W. M. Appleton, Esq., Tyn-y-coed, Weston-super-mare (gr. Mr. Brooks), exhibited Cypripedium × Rolfei (bellatulum × Rothschildianum), a very handsome hybrid, which received an Award of Merit; C. × gigas (Lawrenceanum × Harrisianum), C. × Transvaal (Chamberlainianum × Rothschildianum), and C. × Massaianum (superciliare × Rothschildianum).

R. I. Measures, Esq., Cambridge Lodge, Flodden Road, Camberwell (gr. Mr. Chapman), exhibited Cypripedium × Unixia superbum (× Harrisianum superbum × Lawrebel), a fine hybrid which received an Award of Merit.

R. Tunstill, Esq., Monkholme, Brierfield, Burnley (gr. Mr. Balmforth), received an Award of Merit for Lælio-cattleya × Haroldiana (L. tenebrosa × C. × Hardyana).

J. Colman, Esq., Gatton Park, Reigate (gr. Mr. Bound), exhibited a plant called Miltonia Travassosiana, apparently a form of M. Regnellii with yellow sepals and petals, and a good form of Odontoglossum tripudians.

De B. Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), showed Miltonia Regnellii citrina, and two good forms of M. × Cogniauxiæ.

D. Drewett, Esq., Willow Wood, Riding Mill-on-Tyne (gr. Mr. Etty), exhibited Cypripedium × Miss Fanny Wilson (Sanderianum × Argus), a good form of Cypripedium × Bryani, and an unnamed hybrid (C. tonsum × philippinense).

The Hon. Walter Rothschild, Tring Park, Tring (gr. Mr. Hill), showed a fine example of Schomburgkia Lyonsii.

Sir F. Wigan, Bart., Clare Lawn, East Sheen (gr. Mr. Young), showed a good form of Lælio-cattleya × Violetta (L. purpurata × C. Gaskelliana).

R. Young, Esq., Sefton Park, Liverpool (gr. Mr. Poyntz), showed a good form of the new Paphiopedilum × Kubele (P. × œnanthum superbum ♀ × Youngianum ♂).

Messrs. J. Veitch & Sons, Chelsea, exhibited six fine plants, two of which gained Awards. Lælio-cattleya × Digbyano-Mendelii Veitch's variety received a First-class Certificate and L.-c. × Robin Measures var. Ena (L. xanthina ♀ × C. Schofieldiana ♂), an Award of Merit. The others were L.-c. × Andreana (C. bicolor × L.-c. × elegans), L.-c. × Wellsiana superba (C. Trianæ × L. purpurata), Lælio-cattleya × Stella (L. crispa × L.-c. × elegans), and L. × Pacavia (L. purpurata ♀ × L. tenebrosa ♂).

ORCHIDS AT KEW.

ALTHOUGH the present is the dull season of the year for Orchid blooms, a large number of species are in flower in the Kew collection.

In the Warm department, devoted largely to the Cypripedium and Sarcantheous group, may be mentioned a fine example of the very rare West African Angræcum Eichlerianum, bearing large, solitary, greenish white flowers, a pretty white form of Aerides radicosum, Phalænopsis violacea and P. Esmeralda, good examples of the remarkable Bulbophyllum grandiflorum and B. barbigerum, Polystachya luteola, the handsome Cynoches chlorochilon, and some more familiar plants.

The other Warm department, on the south side, contains among others, examples of the handsome Dendrobium formosum, the rare Catasetum Russellianum, a good Cattleya superba splendens, the rare West African Eulophia Saundersiana, a fine example of Epidendrum ciliare bearing many spikes of flowers, Calanthe veratrifolia, and an inflorescence of Acineta Barkerii only yet in bud.

The Cattleya house is gay with examples of Cattleya Leopoldi, C. bicolor, C. granulosa, C. Aclandiæ, and Lælia Dayana, together with Lælio-cattleya × Schilleriana, L.-c. × callistoglossa, Epidendrum prismatocarpum, the pure white E. lanipes, E. osmanthum, Oncidium Forbesii, Miltonia Clowesii, a form of M. Regnellii having deep yellow sepals and petals, Dendrobium chrysanthum, and other familiar things.

The Odontoglossum house contains many beautiful and interesting plants. Here is an example of the rare Comparettia macroplectron, the brilliant Disa grandiflora, a beautiful example of Oncidium incurvum, the rare O. Geertianum, Odontoglossum aspidorhinum, the rare O. purum, the handsome O. grande and O. maxillare, the very rare Cœlia macrostachya bearing three spikes of its pretty rose-pink flowers, a plant of Sophronitis grandiflora bearing six flowers, rather out of season, the rare Polystachya Kirkii, good examples of Masdevallia floribunda, and M. Reichenbachii, Scaphosepalum verrucosum, Epiphronitis × Veitchii, the rare Sigmatostalix radicans, and a number of examples of Stenoglottis longifolia and its variety alba, and Spathoglottis Fortunei, the two latter being very floriferous and giving quite a gay effect to the house.

NOTES.

THE Royal Horticultural Society will hold two meetings at the Drill Hall, Buckingham Gate, Westminster, during September, on the 10th and 24th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The Manchester and North of England Orchid Society will hold meetings at the Coal Exchange, Manchester, on September 5th and 26th. The Orchid Committee meets at noon, and the exhibits are open to inspection from 1 to 3 p.m.

In connection with the figure and history of Stanhopea Wardii given at page 209, it is interesting to note that a photograph of this species, showing a magnificent 10-flowered inflorescence, has been sent by R. Hogarth Clay, Esq., Wembury House, Plymstock, S. Devon. The plant was purchased some time ago of Messrs. John Cowan and Co., of Gateacre. When thus grown it forms a very striking object.

Another illustration comes to hand of the way Odontoglossum crispum and O. Hunnewellianum grow intermixed in the district whence some of the more recent importations have been collected. Flowers of two plants which were purchased as imported O. crispum have been sent from the co lection of Joseph Broome, Esq., Sunny Hill, Llandudno, but one proves to be a typical O. Hunnewellianum and the other a fine and extremely pretty form of O. × Adrianæ, the natural hybrid between the two species just mentioned. The latter measures 2¾ inches across its broadest diameter, and has a light yellow ground colour, much deeper near the margin, with rather large, deep brown blotches, which are more or less confluent, especially on the sepals, while the lip and column wings closely resemble those of O. Hunnewellianum except in their proportionately larger size. We do not

remember another quite like it, and suggest O. × Adrianæ insignis as a suitable name for it.

It is somewhat doubtful whether the hybrid between Paphiopedilum bellatulum and P. Rothschildianum has yet flowered in cultivation, though it has been doubtfully recorded. At page 93 of our fifth volume it is remarked that T. Statter, Esq., Stand Hall, Whitefield, Manchester, exhibited "a reputed hybrid between Cypripedium bellatulum and C. Rothschildianum, called C. × Rolfei, in which the influence of C. bellatulum was evident enough, but it was generally considered that C. × Leeanum must have been the other parent. Should this prove correct, we believe the plant has already been named, and the name C. × Rolfei should be kept for the hybrid between C. bellatulum and C. Rothschildianum, of which, we believe, genuine seedlings are in existence."

It is interesting to hear of another genuine seedling between the two species just mentioned, now in the collection of Reginald Young, Esq., Sefton Park, Liverpool. Mr. Young writes:—"It may interest you to hear that yesterday I purchased a plant guaranteed 'bellatulum × Rothschildianum,' and I have accordingly labelled it and entered it in my book as Paphiopedilum × Rolfei (See ORCHID REVIEW, v. pp. 93, 94)." We hope to be able to complete its history when the flowers appear.

Since the foregoing notes were written a flowering plant has made its appearance, having been exhibited by W. M. Appleton, Esq., of Weston-super-mare, at the R.H.S. meeting on August 27th, when it received an Award of Merit.

A flower of the hybrid Cattleya × Mary Gratrix (C. Harrisoniana ♀ × C. granulosa Schofieldiana ♂), is sent by Messrs. Hugh Low & Co., Bush Hill Park, Enfield, and shows well its intermediate character. The sepals and petals are light rosy purple, the ample side lobes of the lip yellowish white, and the front lobe bright purple. It appeared in 1897, a plant being exhibited at a meeting of the Manchester Orchid Society on August 20th of that year by S. Gratrix, Esq., Whalley Range, Manchester.

A photograph of a single flower of a pure white form of Dendrobium bigibbum is sent from the collection of O. Bartels, Esq., of Brisbane, Australia. It is a charming little variety, and the only colour on the flower is said to be a little yellow on the disc of the lip. D. bigibbum var. candidum, from the collection of Sir Trevor Lawrence, is said to have the flowers slightly tinged with rosy purple, otherwise the two forms appear to be very similar.

Epicattleya × Orpeti (Cattleya amethystoglossa ♀ × Epidendrum × O'Brienianum ♂) is a very interesting hybrid raised by Mr. E. O. Orpet, S. Lancaster, Mass., whose history was given at page 114. A beautiful dried flower has now been sent, which in its present condition measures two inches across its broadest diameter, and its brilliant rose-purple flowers have scarcely lost a trace of colour in the process.

Sophrolælia × Orpeti (Lælia pumila ♀ × Sophronitis grandiflora ♂) is another brilliant hybrid raised by Mr. Orpet, of which a dried flower in equally perfect condition has been sent. It measures over $3\frac{1}{4}$ inches in diameter. It most resembles the Sophronitis in shape, but the lip is much enlarged, and the disc yellow, the rest of the flower being a brilliant purple-crimson.

ORCHID PORTRAITS.

BULBOPHYLLUM GRANDIFLORUM, Blume.—*Bot. Mag.*, 7787.

CORYANTHES SPECIOSA.—*Journ. Hort.*, 1901, xliii., p. 169, with fig.

CYPRIPEDIUM × MAUDIÆ MAGNIFICUM.—*Gard. Chron.*, 1901, xxx., p. 129, fig. 41; *Journ. Hort.*, 1901, xliii., p. 121, with fig.

DISA × VEITCHII.—*Journ. Hort.*, 1901, xliii., p. 145, with fig.

MILTONIA SPECTABILIS VAR. MORELIANA.—*Garden*, 1901, lx., p. 115, with fig.

ODONTOGLOSSUM × BRÆCKMANII CRAWSHAYANUM.—*Gard. Mag.*, 1901 p. 546, with fig.

ODONTOGLOSSUM CRISPUM VAR. MRS. BROOMAN WHITE.—*Gard. Chron.*, 1901, xxx., p. 94, with suppl. fig.

ODONTOGLOSSUM CRISPUM PITTIANUM.—*Gard. Chron.*, 1901, xxx., p. 154, fig. 49.

ODONTOGLOSSUM MACULATUM THOMPSONIANUM.—*Gard. Mag.*, 1901, pp. 546, 547, with fig.

PHALÆNOPSIS MANNII.—*Journ. Hort.*, 1901, xliii., p. 97, with fig.

ZYGOPETALUM MACKAYI.—*Journ. Hort.*, 1901, xliii., pp. 122, 123, with fig.

CORRESPONDENCE, &c.

(*Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they may have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.*)

D. M. G. Oncidium × præstans, Rchb. f.

P. B. S. Catasetum macrocarpum.

J. M. Impossible to be of the parentage recorded, but we will endeavour to identify it.

W. S. Odontoglossum crocidipterum, Rchb. f., and Acampe Wightiana, Lindl.

Photographs received with thanks. O. O. W., R. H. C.

Received. J. M., J. B., D. B. C., O. B.

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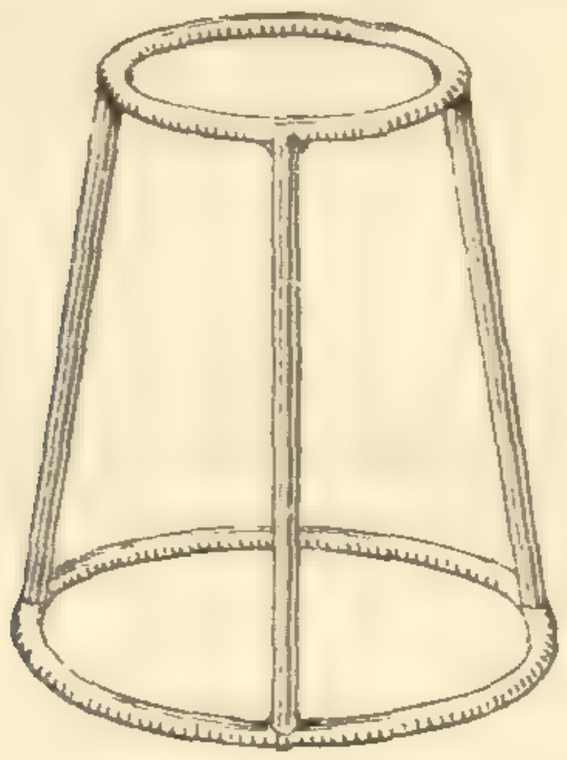

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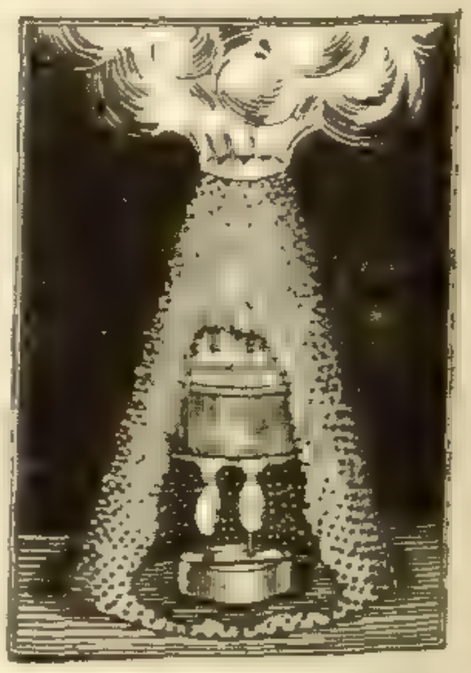

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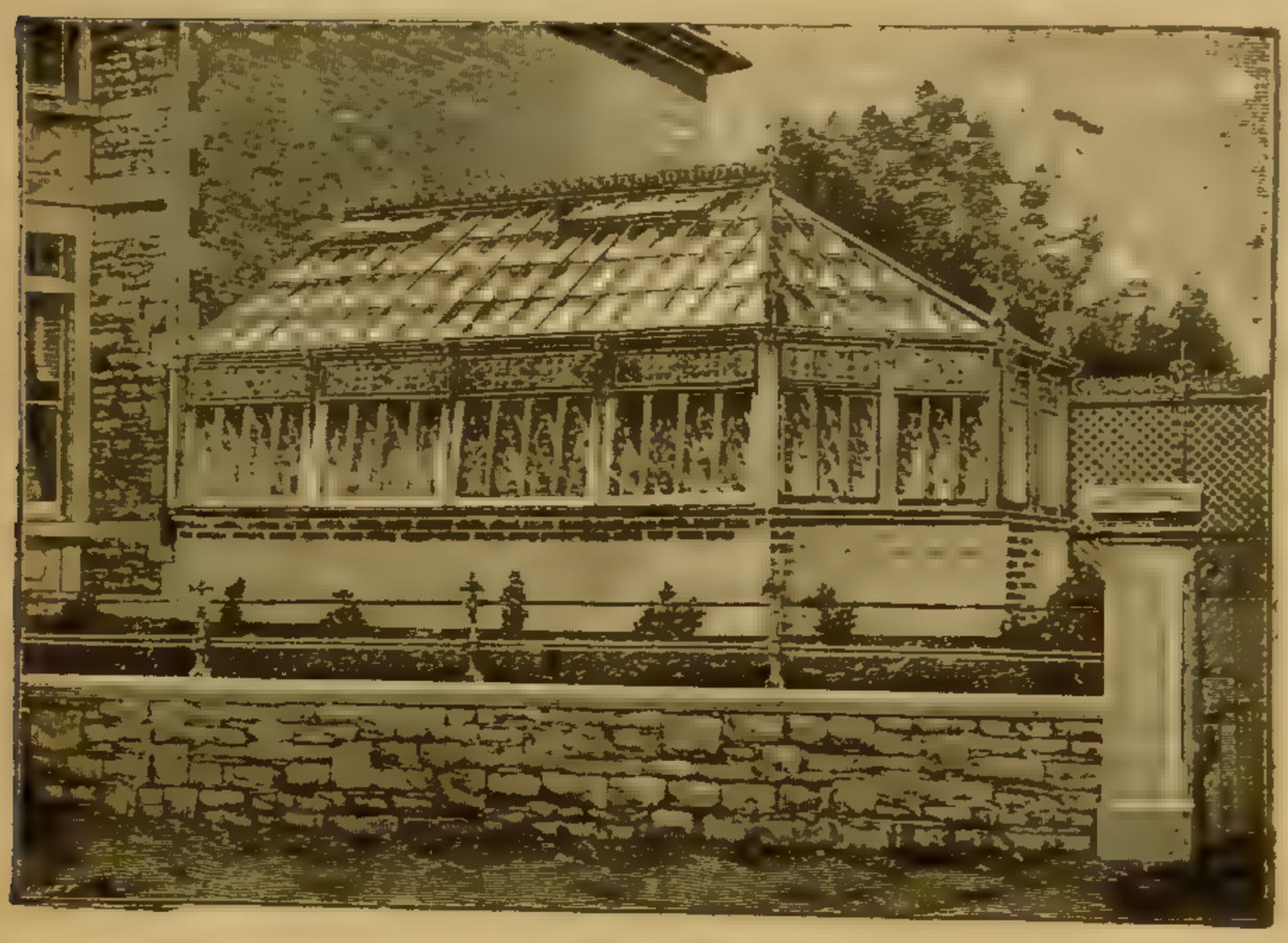

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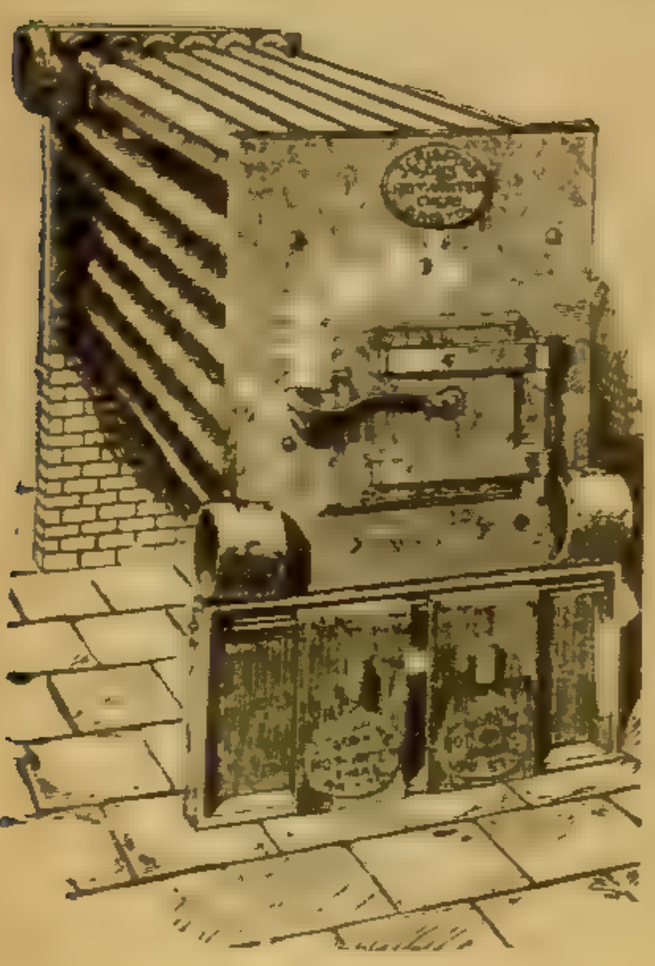

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NATURAL HYBRID MILTONIAS.

SEVERAL natural hybrid Miltonias have made their appearance in gardens, among importations of the different Brazilian species, whose history I have tried to bring together in the following paper. The Brazilian species of the genus are eight in number, namely, M. anceps, M. candida, M. Clowesii, M. cuneata, M. flavescens, M. Regnellii, M. Russelliana, and M. spectabilis, with its dark variety Moreliana, and it is remarkable how comparatively little is recorded of their habitats and distribution—in two or three cases practically nothing except that they came from Brazil. The natural hybrids between them at present known seem to be seven in number, and in every case their origin has been inferred from their intermediate character, rather than from other sources of information. From them, however, we may gather that the species grow more or less intermixed—for it is only under such circumstances that natural hybrids occur—and we are justified in concluding that M. spectabilis grows with M. flavescens, M. Clowesii, M. candida, and M. Regnellii, which latter occurs with M. candida, and M. Clowesii, and the two last mentioned with each other.

1. M. × FESTIVA was the earliest of these natural hybrids, and was described by Reichenbach, in 1868, as follows:—"A new and showy Miltonia! Imagine a two-flowered M. spectabilis, with narrower ochre-coloured sepals and petals; add, in lieu of the blunt and broad apex of the lip an acute one; imagine the whole purplish, with eleven dark, radiating streaks, and take longish, very acute bracts—you'll have the plant. It is an old friend of ours, having been sent to us as early as 1865, by M. Lüddemann, of Paris. Yet we were not disposed to write on a single (two-flowered) withered peduncle, and it was put aside among our numerous doubtful Orchids and labelled as 'Miltonia, a hybrid.' If mere conjectures may be permitted, when proferred merely as such, we should venture to ask whether it is not a mule between Miltonia spectabilis and flavescens. The

bracts and the apex of the lip, and the colour of both sepals aud petals, are those of M. flavescens; the other organs have the characters of the corresponding parts of M. spectabilis. The Lüddemann flowers do not turn red when dried as do the flowers of M. flavescens. We are indebted for a glorious two-flowered inflorescence to our excellent correspondent and friend, Stuart Low, Esq." A plant flowered in the collection of Wentworth Buller, Esq., Ferniehurst, Shipley, near Leeds, in June, 1869 (possibly the one just mentioned), and another appeared with Messrs. James Veitch & Sons, in 1877. It also flowered in the collection of R. I. Measures, Esq., of Camberwell, in May, 1894, the inflorescence being preserved at Kew, where also is an inflorescence sent by Mr. Rand, of Pará, Brazil, in September, 1895, as suspected to be a hybrid between M. festiva and M. spectabilis. There can no longer be any doubt that this represents the origin of the plant, which is apparently rare. The following are the references :—

M. × FESTIVA, Rchb. f. in *Gard. Chron.*, 1868, p. 572; *Veitch Man. Orch.*, viii., p. 118; *Kranzl. Xen. Orch.*, iii., p. 66, t. 232.

2. M. × BLUNTII was described by Reichenbach in 1879, as follows :— "A fresh novelty, a lovely and elegant thing. The flower is equal to that of Miltonia spectabilis, but the sepals and petals have another shape, and are smaller. They are whitish yellow, and they have some great, purple cinnamon blotches, chiefly in their centre. The sepals are lanceolate acute; the petals oblong, lanceolate, less acute. The lip has exactly the form of that of M. spectabilis, but there are two different, naked, abrupt keels at the base; its colour is white, and there is a purple area at the base. The column is thick and very short, with narrow, great, darkish purple-violet wings. The whole aspect must be uncommonly pretty. If you take sepals and petals of a Clowesii, wash all the bars from base and top, and add the column and lip of a spectabilis, you will have rather a good idea of Miltonia × Bluntii, only remember there are no bars at all, but blotches. Mr. Richard Bullen informs me that the plant is like M. spectabilis in growth and habit. I entertain no doubt of the plant being a mule between M. spectabilis and M. Clowesii. It is a great satisfaction to dedicate the plant to its discoverer, Mr. Henry Blunt, who once more devotes his zeal to Orchids. Materials have been kindly sent by Mr. Richard Bullen, Woodlands Nursery, Hither Green, Lewisham."

VAR. PEETERSIANA.—Another natural hybrid was described by Reichenbach in 1886, but being descended from the same two species must be considered as a variety of M. × Bluntii. The description is as follows :— "This has the bulb and leaf of Miltonia Clowesii. The peduncle is very strong, not markedly two-edged but more rounded. The shading of the inflorescence is rather flexuose in one specimen with ancipitous, triangular, large bracts, nearly equal to the stalked ovaries. The flower would be diffi-

cult to distinguish from those of Miltonia spectabilis Moreliana, but the lip is narrower at the base and dilated suddenly and acutely at the top. Both the sepals and petals are a little narrower and more acute, of the finest dark horse-chestnut purple. The lip is of the richest purple, with five, unequal, yellow keels at the base, and numerous dark purple blotches, with nearly white margins, occupy the base and inside line of the disc. The auricles of the column are bilobed. The yellow *tabula infrastigmatica* is provided with two erect teeth. It is probably a hybrid between M. spectabilis Moreliana and M. Clowesii. I received five flowers, an inflorescence, bulb, and leaf from M. A. A. Peeters, St. Gilles, Bruxelles, to whom it is dedicated with pleasure. I believe I saw the very same plant at Mr. W. Bull's some days ago, when it was nearly dark."

VAR. LUBBERSIANA was described by Reichenbach in 1887, as follows:—"This very fine variety has both the sepals and petals covered with very dark, horse-chestnut coloured spots, which are very often confluent in the middle. The peduncle at hand, the first one developed, is two-flowered, but may attain higher development. It was kindly sent me by M. A. A. Peeters, St. Gilles, Bruxelles. It is dedicated, at the wish of Mr. Peeters, and with great satisfaction on my part to Mr. Lubbers, of the Botanic Garden of Bruxelles, whom I have had the pleasure of knowing for nearly a third of a century as a most intelligent and a most enthusiastic grower and lover of plants."

All the forms of this hybrid are remarkably handsome. The following are the references to descriptions and figures:—

M. × BLUNTII, Rchb. f. in *Gard. Chron.*, 1897, xii., p. 489; *Cogn. et Gooss. Icon. Orch.*, Milt. hybr., t. 2.

VAR. LUBBERSIANA, Rchb. f. in *Gard. Chron.*, 1887, ii., p. 649: *Orchidophile*, 1890, p. 176, with plate; *Journ. Hort.*, 1892, xxiv., pp. 370, 373, fig. 65; *Lindenia*, v., t. 203; *Veitch Man. Orch.*, viii., p. 117, with fig; *Journ. Hort.*, 1892, xxiv., pp. 370, 373, fig. 65; *Gard. Mag.*, 1898, p. 736, with fig.; *Cogn. et Gooss. Icon. Orch.*, Milt. hybr. t. 2a.

VAR. PEETERSIANA. M. × Peetersiana, Rchb. f. in *Gard. Chron.*, 1886, xxvi., p. 326; *Cogn. et Gooss. Dict. Icon. Orch.*, Milt. hybr., t. 3.

3. M. × Lamarcheana was described by Reichenbach as a new hybrid in 1881, though this was not the first appearance of the plant, it having been figured by E. Morren, in 1876, as M. Clowesii var. Lamarcheana. Reichenbach remarked, "I have at hand a beautiful inflorescence coming from the excellent collection of M. Massange de Louvrex, of Liege, grown by M. Kramer," and, after pointing out various intermediate characters, added, "My opinion is, that the plant may be a mule between M. candida and M. Clowesii." According to Morren it first flowered in August, 1874, in the garden of M. Oscar Lamarche de Rossius, President of the Société Royale d'Horticulture of Liege, the plant having been received from the province

of Minas Geraes, Brazil, in 1873. In August, 1893, a plant was exhibited at a meeting of the Royal Horticultural Society by Major Joicey, Sunningdale Park, under the name of M. × Joiceyana, and received a First-class Certificate, being afterwards described by Mr. J. O'Brien as a supposed hybrid between M. Clowesii and M. candida. Still later a plant appeared with Messrs. Charlesworth & Co. Heaton, Bradford, and in October, 1895, it was exhibited at a meeting of the R. H. S. from the collections of Walter Cobb, Esq., and of S. G. Lutwyche, Esq., when its history was given in these pages. It should be added that Mr. Cobb's plant was exhibited under the name of M. × Cobbiana, and received an Award of Merit. It was recorded as a supposed natural hybrid between M. candida and M. cuneata. It is evidently a rare plant, and quite intermediate between the two species previously mentioned. The following are the references to figures and descriptions :—

M. × LAMARCHEANA, Rchb. f. in *Gard. Chron.*, 1881, xv., p. 530; Rolfe in *Orch. Rev.*, iii., p. 351.

M. Clowesii var. Lamarcheana, E. Morr. in *Belg. Hort.*, xxvi., p. 174, t. 13.

M. × Joiceyana, O'Brien in *Gard. Chron.*, 1893, xiv., p. 206; *Journ. Hort.*, 1895, xxx., p. 45, fig. 8; *Orch. Rev.* i., p. 268; *Journ. Hort.*, 1895, xxx., p. 45. fig. 8.

M. × Cobbiana, *Gard. Chron.*, 1895, xviii., p. 467.

4. M. × BINOTI was described by Prof. Cogniaux, in 1897, from a plant which flowered in the establishment of Mr. A. A. Peeters, St. Gilles, Brussels, in November of that year, and which had been sent from M. Binot, of Petropolis. The author described it as a plant recalling some forms of M. candida, in the pseudobulbs, leaves, and the size and form of the flowers; the sepals and petals cinnamon-brown, with the apex, a narrow margin, and one or two imperfect transverse bars of pale, greenish yellow; and the lip scarcely shorter than the lateral sepals, broadly obovate, bright violet purple, veined with darker lines, not curling like a horn round the column as in M. candida, but merely rather concave. The author added :—

" M. × Binoti principally differs from M. candida in the lip and the column, which organs much resemble, on the contrary, those of M. Regnelli, and especially those of its variety purpurea. We are disposed to consider it as a natural hybrid between those two species."

VAR. INTERMEDIA afterwards flowered in the same establishment, and has much shorter and broader sepals and petals, almost wholly suffused with brown, and the lip much more concave, in fact closely resembling M. candida in shape, but wholly purple in colour.

A plant was exhibited at a meeting of the R.H.S. on September 10th last, from the collection of De Barri Crawshay, Esq., Rosefield, Sevenoaks,

under the name of M. × Crawshayana, and as a supposed natural hybrid between M. Regnellii citrina and M. Clowesii, but it is a form of the present one, most resembling M. Regnellii in the lip and M. candida in the sepals and petals.

The following are references to descriptions and figures :—

M. × BINOTI, Cogn. in *Gard. Chron*, 1897, xxii., p. 393; Chapm. in *Gard. Mag.*, 1898, p. 736, with fig.; *Journ. R. Hort. Soc.*, xxii., Proc., pp. 167, 173, fig. 113; *Cogn. et Gooss. Dict. Icon. Orch.*, Milt. hybr., t. 4.

M. × Crawshayana, *Gard. Chron.*, 1901, xxx., p. 210.

VAR. INTERMEDIA, *Cogn. Dict. Icon. Orch.*, Milt. hybr., t. 4a.

5. M. × COGNIAUXIÆ appeared in December, 1890, in the establishment of M. A. A. Peeters, St. Gilles, Brussels, and was dedicated to Madame Cogniaux by Mr. Fr. Peeters, being shortly afterwards figured and described, when M. Cogniaux remarked :—"There can be no doubt that this plant is a natural hybrid, having for its parents M. Regnellii and M. spectabilis var. Moreliana, between which it is unquestionably intermediate." A hybrid with this parentage had already appeared under the name of M. × Peetersiana, but it was not Reichenbach's plant of that name, which is a variety of M. × Bluntii, and it is a curious fact that the history of the present hybrid can be carried right back to the year 1886. There is in the herbarium of the late W. H. Gower, now at Kew, a flower labelled "Miltonia Peetersiana," but without any other details, which is certainly identical with the one now under consideration. This led me to search for a possible record by Mr. Gower, and I succeeded in finding two references, in *The Garden*.

The first was in 1887, and is as follows :—"Miltonia Peetersiana.—This is a new species, apparently intermediate between M. Regnellii and M. Moreliana, with the growth, habit, and inflorescence similar to the first named kind. The sepals and petals are long and spreading, wholly deep purplish violet; lip large and flat, bright purplish violet in the centre, becoming paler towards the margin, veined throughout with lines of deep violet, and bearing several raised ridges on the disc. This beautiful plant is now flowering in an intermediate house of Mr. Measures's garden at Camberwell." The second was a year later, and runs :—"This is a very pretty and I fancy a somewhat rare species, which I recently noted flowering in the Studley House collection of F. G. Tautz, Esq.. It has the habit of M. Regnellii, and the flowers are about the same size as those of that species, but they have the colour of M. Moreliana." The flower evidently came from one of these two plants—presumably the former—and there is sufficient in the description to identify them with the Miltonia Peetersiana concolor, n. var., described by Reichenbach in 1886, as follows :—"Mr. W. Bull has been so very kind as to send me the whole

inflorescence of the plant I alluded to in my report about that novelty (p. 326). It is remarkably distinct from the original, inasmuch as the sepals and petals are not quite so dark. The lip, beautiful as it is, has not those dark eye blotches bordered with white margins." Whether Mr. Bull sold the plant to Mr. Measures or Mr. Tautz, we have no means of ascertaining, but we should not be surprised to learn that one or both came from the same source.

VAR. BICOLOR, *n. var.*—The one other hybrid from the same two species that I am acquainted with was sent to Kew in July, 1891, by Mr. Thomas Spencer, The Gardens, Goodrich Court, Ross, with the following note:—"A Miltonia which I am not acquainted with. The foliage and growth reminds one of M. spectabilis, and is about the same size." The bracts of the inflorescence also approach those of the same species, but the size and shape of the flower, including the column wings, are even more nearly like those of M. Regnellii than those of the original form; compared with which there is the striking difference that the sepals and petals are yellowish white, showing that the typical M. spectabilis was the second parent. The lip is purple, as in the original.

It may be asked why, seeing that M. × Peetersiana, Rchb. f. now becomes a variety of M. × Bluntii, the specific name is not retained for the present hybrid in preference to the more recent M. × Cogniauxiæ. The answer is simple, and ought to be convincing. The name Peetersiana was only applied to the present one through an error, which has continued to the present day because the confusion of Reichenbach and others has not previously been cleared up. Messrs. Peeters indeed repudiate it for the present plant, which they have named M. × Cogniauxiæ. It only serves to perpetuate the confusion if we retain the name after its falsity has been pointed out. The following are references to descriptions and figures:—

M. × COGNIAUXIÆ, Fr. Peeters, ex *Cogn. et Gooss. Dict. Icon. Orch.*, Milt. hybr. t. 5.

M. × Peetersiana var. concolor, Rchb. f. in *Gard. Chron.*, 1886, xxvi., p. 360.

M. × Peetersiana, Gower in *Garden*, 1887, xxxii., p. 197; 1888, xxxiv., p. 169; *Gard. Chron.*, 1897, xxii., p. 222; *Garden*, 1897, lii., p. 249; Chapm. in *Gard. Mag.*, 1898, p. 736 (*not of Rchb. f.*).

6. M. × LEUCOGLOSSA appeared in the collection of Sir Trevor Lawrence, Bart., Burford, Dorking, in 1898, being exhibited at a meeting of the Royal Horticultural Society, on September 20th of that year, when it received an Award of Merit. The *Gardeners' Chronicle* spoke of it as a novelty, "which may be a hybrid of M. cuneata, the sepals and petals were cream-white, with blotches of light violet colour, the lip pure white, except some marking around the crest." Mr. Chapman afterwards noted

it as "resembling M. spectabilis in habit of growth, and perhaps a hybrid between that species and M. candida. Sepals and petals greenish-white, spotted with a distinct shade of violet-purple. Lip pure white except at base, where there is a violet-purple suffusion on either side of the yellow ridged disc." I have not seen the plant, but the figure shows no resemblance to M. cuneata, and I believe that Mr. Chapman is right in his suggestion about the parentage. The following are the references :—

M. × LEUCOGLOSSA, *Gard. Chron.*, 1898, xxiv., p. 242 ; *Orch. Rev.*, vi. p. 318; Chapm. in *Gard. Mag.*, 1898, p. 736, with fig.; *Journ. R. Hort. Soc.*, xxii. p. 498, fig. 117, Proc. p. 167.

7. M. × castanea, n. hyb. This, the latest addition to the ranks of natural hybrid Miltonias, was really the first to appear, though its origin does not seem to have been suspected. In March, 1856, Reichenbach published a short account of the genus Miltonia, in which appeared a plant called M. Clowesii var. castanea, said to differ from the type in having the perianth brown (not yellow), girded with pale spots, and the lip wholly purple. No further particulars or history were given. In September, 1887, a similiar form appeared in the establishment of Messrs. James Veitch & Sons, at Chelsea, and in October, 1889, another plant flowered in the collection of H. J. Ross, Esq., of Florence, Italy. Messrs. Veitch noted it as having "sepals and petals chestnut-brown, paler towards the tips, stained with plum colour at the base ; lip wholly plum purple, shaded with maroon at the base, paler at the apex." Besides these differences, a comparison shows that the lip has lost the characteristic narrowed basal half, and has become broadly pandurate, with only a slight constriction in the middle. This form I am convinced is a natural hybrid between M. Clowesii and M. Regnellii. It would be interesting to know what has become of the two plants just mentioned. The following are the references :—

M. × CASTANEA. M. Clowesii var. castanea, *Rchb. f. Xen. Orch.* i., p. 130; *Veitch Man. Orch.*, viii., p. 100.

R. A. ROLFE.

STANHOPEA CONNATA.

THE re-discovery of a lost species is often more interesting than the appearance of a new one, and it is very curious how many plants which were originally described from some garden and were subsequently lost sight of have failed to re-appear. Stanhopea connata is a species which was described by Klotzsch in 1854 (*Allg. Gartenz.*, xxii., p. 226), from a plant which flowered in the collection of Herr Mathieu, at Berlin, and which is said to have been sent from Peru by Warscewicz in the previous year. A second example from the same collector flowered with Messrs. Booth & Sons, of Hamburg, in 1860, and was noted by Reichenbach (*Hamb. Gartenz.*,

1860, p. 422), since which period nothing further seems to have been heard of the species. Reichenbach sent to Lindley a tracing of the inflorescence, with analytical details of the flower, marked "ex planta originali!! 55," probably alluding to an inflorescence produced by the type plant in the following year, and this tracing now fortunately leads to the re-identification of the species. A Stanhopea sent to Sir Trevor Lawrence by Mr. Lehmann has just flowered, and a flower which has been sent to Kew for determination has both the characters and the colour of the lost plant. It is remarkable for the very broad, short, globose hypochil of the lip, which is united as far as its middle to the base of the column, and marked at its junction with the mesochil by a strong constriction, while the usual articulation between the mesochil and epichil is absent, a combination of characters by which Reichenbach separated it from every other known species. The flower is throughout of a very deep yellow—almost orange-colour on the lobes of the lip and base of the petals—with the lower half of the petals blotched and spotted with maroon (the larger blotches being at the base), and the hypochil of the lip suffused and blotched with the same colour outside, and more or less banded with dark brown inside. The short, stout column is greenish white at the back, but yellow on the front. On either side of the hypochil is a strong keel, situated about the middle of a deep yellow area. The epichil of the lip and the horns of the mesochil are very fleshy, and nearly parallel with the column. Altogether it is a very remarkable plant. There is a figure in Reichenbach's *Xenia Orchidacea* (iii., p. 136., t. 277). It would be interesting to get together a complete collection of the species of this remarkable genus.

R. A. Rolfe.

"'Reichenbachia: Orchids illustrated and described, by F. Sander, St. Albans, assisted by eminent scientific authorities.' Such is the title of a valuable work, says *The Public Library Journal*, just purchased for the Cardiff Reference Library (D. 3-1138). The book is in four large volumes, magnificently illustrated with coloured plates, and by reason of its price (£45) is quite out of reach of all except rich people. It is a book which has long been wanted at Cardiff, for Orchid growing by amateurs is increasing, and quite brilliant results are obtained by amateurs of very moderate means with greenhouses and other appliances of quite an inexpensive type. Such a pursuit deserves every encouragement, and the purchase of this valuable book for the Free Library is another example of the readiness of the Committee to serve the highest interests of the ratepayers." — *Journal of Horticulture.*

A GROUP OF HABENARIAS.

THE appearance of the brilliant scarlet Habenaria militaris, from the collection of Sir Trevor Lawrence, at the R.H.S. meeting at the Drill Hall, on September 24th, reminds us how comparatively seldom one meets with this species in good condition, and there are several other species which are equally worthy of attention. The annexed illustration gives a good idea of how effective some of them are when well grown. It represents a small group taken in Sir Trevor's collection a few years ago by Mr. G. F'Anson. The central figure shows an example of the remarkable H. Susannæ, whose

FIG. 43. HABENARIA MILITARIS. FIG. 44. H. SUSANNÆ.
FIG. 45. H. CARNEA.

large, white fringed flowers invariably command attention. Being rather tall, it had to stand below the others, so as to bring its flowers within the picture. On either side are seen examples of H. militaris, not seen at its best, as only two or three of the lower flowers are expanded. In front are three examples of the beautiful little H. carnea, which, with its white variety nivosa, attracted so much attention a few years ago, but has again become very rare, probably on account of the difficulty of cultivating it. Each of the species has received a First-class Certificate from the R.H.S.

Mr. White has succeeded in growing H. militaris for many years, and his method of treatment was given in detail in our first volume (pp. 83-85). Small pots should be used, those called long thumbs being preferable, on account of the great length of the tubers, and the compost should consist of fibrous peat, loam, and moss in equal proportions. with a very liberal admixture of finely broken crocks and a sprinkling of coarse silver sand. Put a single crock at the bottom of the pot, then insert the tuber so that the crown is about half an inch below the rim, and fill half way up with clean broken crocks. Next add a thin layer of sphagnum moss, and fill up with compost, just covering the tuber and pressing in the compost moderately firm. Then sprinkle lightly with a fine-rosed watering can, and place the plants as near to the glass as possible on the shady side of the East Indian House, where the air is hot and moist. As growth advances give moderate waterings—when in full growth they will take almost any quantity. During hot weather syringing the under side of the foliage will be very beneficial, and a sharp watch should be kept for any signs of thrip, which soon disfigure the leaves. After flowering, the leaves will begin to change colour, when the waterings should be gradually diminished until the stems have quite died down, when they fall away naturally. Rest on a dry shelf in the same house, just preventing the soil from becoming dust dry, and thus keeping the tubers from shrivelling. It may be propagated quickly by separating the new tubers which are found when the plants are turned out previous to repotting.

ORCHIDS AT BRADFORD.

THE recent notes on the culture of Orchids in leaf-mould have aroused a great amount of interest in the subject, and with the object of making ourselves acquainted with the details, we availed ourselves of an opportunity of visiting Messrs. Charlesworth & Co.'s Nursery, at Heaton, Bradford, and we may at once say that we were greatly pleased with what we saw. But before going into special details we must make a few remarks on the collection generally.

The establishment has undergone considerable development since our last visit in 1899. A block of six houses has been built, some little distance away from the original block overlooking the reservoir, and at a somewhat higher elevation. These are each 100 feet long, and fitted with all the latest improvements; and they are almost entirely devoted to the multitude of hybrid seedlings which Mr. Charlesworth has been so successful in raising. It is exclusively an Orchid Nursery, and, viewing the numerous seedlings in every stage of development, from the tiniest green globules right up

to those which are producing their first flowers, one realizes how peculiarly applicable is the latter word, and prophetic of the coming period when we shall raise most of our Orchids at home instead of importing them from abroad. "Even Odontoglossums?" you ask. Well, we will not utter rash prophesies, but we know that several artificially raised ones have already flowered in different collections, and others are progressing towards that interesting stage. We believe it is only a question of time and perseverance, with the addition of that knowledge gained by experience which has reduced the raising of seedlings of some other genera almost to an exact system. And Mr. Charlesworth has had a share of success with Odontoglossums too, for we saw a few nice little seedlings in various stages—which brings us back to our subject.

It was previously noted that hybrid seedlings were one of the features of the establishment, Mr. Charlesworth having taken up the subject systematically some years ago, and after a series of careful experiments was able to germinate good seeds with almost as much certainty as the proverbial "mustard and cress," and had thousands of seedlings in every stage of germination, and beyond. This applied largely to Cattleyas and Lælias, and the plants have now made further progress, and are reaching the flowering stage in a gradually increasing ratio. The plants generally are in excellent condition, and are pictures of health and vigour, and the great majority are now in leaf-mould, the remainder being put in as the work progresses, but of this more anon. The question of room has already been faced, as pointed out above. Numbers of the most promising combinations were pointed out, but we can only mention a few actually in flower or bud. Cattleya × flavescens (Forbesii × Dowiana) is a very pretty little plant, combining well the characters of its parents, two examples being in flower. C. × Bowringiano-velutina was represented by several examples. A seedling from C. Loddigesii × Gaskelliana virginalis was opening and had good flowers with a pale lip. Lælio-cattleya × Issy (L. tenebrosa × C. Leopoldi) and L.-c. × Amelia (L. cinnabarina × C. intermedia) are two interesting things represented by two or three flowering examples, and a flower of L.-c. × Ingrami was very fine. Numbers of plants in bud and sheath were pointed out, among the latter being a nice batch of L.-c. × Charlesworthii.

In a house largely devoted to the Cypripedium group we saw a small example of the rare C. Fairrieanum—not in flower, though several other interesting things were—those noted being three plants of C. × Lawrebel, while a fourth had a scape with three buds, showing great vigour. Of C. × Sir Redvers Buller three plants were in flower. C. Curtisii and C. × Ashburtonæ were bearing two-flowered scapes, and C. × A. giganteum was very fine. A strong plant of C. × A. de Lairesse was remarkable for its

growth, having bifurcated above the fifth pair of leaves, a thing we do not remember to have seen before. Here also we saw a few young seedlings of Cœlogyne speciosa crossed with C. cristata whose flowering will be awaited with interest.

In looking round the nursery we saw many interesting things in flower, and these we may now mention. First in order of merit we must place a magnificent form of Cattleya × Hardyana, which had just expanded, and, close by, examples of C. Warscewiczii, C. Eldorado in bud, and some good C. Gaskelliana. A nice batch of C. bicolor together with a few good C. Loddigesii and C. granulosa made quite a show, and a fine batch of L. pumila in flower contained several very good forms. A few plants of Vanda cœrulea were out, but many more in bud, and a batch of V. Kimballiana in a cool house was gay with its pretty flowers. Several plants of V. Amesiana were in bud. Miltonias were flowering freely, and included some good examples of M. Clowesii, M. spectabilis, and a nice batch of its purple variety Moreliana, M. Warscewiczii xanthina, a group of M. candida, and the handsome natural hybrids M. × Bluntii varieties Lubbersiana and Peetersiana. We noted also M. vexillaria Leopoldi and M. × Bleuana grandiflora, the latter not yet open. Oncidiums included some fine O. Forbesii and plenty more in bud, O. curtum, some good O. ornithorhynchum album, O. flexuosum, O. Kramerianum, and the striking O. spilopterum. Masdevallias included nice examples of M. Schlimii, Davisii, Veitchiana, ignea, forms of coccinea, the hybrids M. × Ajax, M. × Imogene, M. × falcata, and others. Of Odontoglossums, besides a nice batch of O. crispum, we noted the rare O. crocidipterum, with examples of O. cirrhosum, polyxanthum, grande, maxillare, Uroskinneri, bictoniense, and tripudians. And among miscellaneous things may be mentioned the plants of the very graceful Brassia longissima, the brilliant Cochlioda Noetzliana, Trichopilia coccinea, Restrepia guttata, Disa grandiflora, Zygopetalum maxillare, the new Catasetum eburneum (Rolfe) with ivory white flowers, Epidendrum porphyreum, Cœlogyne Massangeana, several Lycaste Skinneri and Comparettia macroplectron, the latter in bud, nice little batches of Cypripedium Charlesworthii and C. Spicerianum, and various other species and hybrids of the Cypripedium group. Lastly may be mentioned a charming little group of Anœctochili, and a fine batch of Dendrobium Phalænopsis in luxuriant health and crowded with spikes, of which a few were already out. These, it was specially pointed out, were in leaf-mould, and their growths spoke volumes for the treatment.

CULTURE OF ORCHIDS IN LEAF-MOULD.

And now we come to the question of leaf-mould, and, first, may mention a few of the Orchids which were pointed as doing especially well in it, and afterwards describe the *modus operandi*.

Firstly, Mr. Charlesworth pointed out that all seedlings do well in it, as it seems to afford that constant supply of food which these active little plants require. Dendrobium Phalænopsis we have just mentioned. Oncidiums Forbesii, Marshallianum, and their allies, are noticeable for their improvement when transferred to the new compost. A batch of Oncidium splendidum was remarkable for its clean, robust growth, and this is a particularly difficult plant to grow well. Moreover it should be noted that they had been in leaf-mould long before they came into Mr. Charlesworth's hands. The rare O. pulchellum was also doing well in it. Odontoglossums luteopurpureum, grande, and cirrhosum are ali said to show marked improvement after its use, and plants of the latter had luxuriant growths, bright green in colour, instead of that yellow appearance which is sometimes seen. Miltonias thrive in it, and some of the plants were in splendid health. Cattleya Warscewiczii in leaf-mould was producing finer growths than when received, and C. Mossiæ was also improving. It is also a most suitable compost for many members of the Cypripedium group, and some of those with weak constitutions show a marked improvement when placed in it. We noted others, but this must suffice, and after seeing what we did we cannot wonder at Mr. Charlesworth's confidence in the new compost which he is adopting so largely.

And now for its composition and manipulation. The leaves are mostly oak—there may be a small admixture of other things—and they are used in a flaky or half-decayed state. We saw several loads of it as delivered, and of course it should be protected from rain. The leaves are first rubbed through a three-quarter inch sieve, which ensures their being thoroughly broken up. Next the small amount of fine material which it contains is rejected by the use of an eighth-inch sieve, and this of course would come in handy for many ordinary plants. For seedlings and choice things, about five to ten per cent. of fibrous peat thoroughly broken up, and a similar quantity of chopped sphagnum, is added, after which the materials are thoroughly incorporated together. We handled the prepared mixture, and so far as appearances went it seemed to have the right mechanical texture. And the proof of the compost of course lies in the results. Sometimes fragments of broken charcoal are added to keep the materials sweet, but it is not considered strictly necessary, and is often omitted. For Cypripediums the leaf-mould with about fifteen per cent. of chopped sphagnum has been used. The pots are crocked as for ordinary plants, and just covered with a thin layer of moss, after which the compost, which should be only just moist, should be pressed in firmly, and surfaced with a layer of chopped sphagnum. Then a light watering is given and the plants are removed to their respective positions and treated in the ordinary way.

One may ask, Is the new treatment likely to be a permanent improve-

ment? Well, it may be remembered that M. de Lange-Vervane, and M. Peeters of Brussels have followed it for years, and they could not afford to use a bad system. Indeed Mr. Charlesworth could not understand why some of their plants did so well until he learnt their method of treatment, and he at all events shows confidence in the result by adopting it so largely. Some are said to consider the above manipulations unnecessary, and use the leaf-mould just as received, but it is well to take every precaution, and those who are timid will prefer to begin by a small admixture of leaf-mould to their ordinary compost. Finally, one word of caution is necessary. Every opportunity should be taken, by the admission of plenty of light and air, to get the bulbs well ripened before dull weather sets in, so that the increased luxuriance is not counterbalanced by a decline in this direction. We certainly think a good many oak-leaves should be collected during the coming autumn.

THE HYBRIDIST.

CATTLEYA × CLYMENE.—We have now a hybrid from Cattleya Rex to record. An inflorescence has been sent by M. Lucien Linden, L'Horticole Coloniale, Brussels, with the record that it was derived from a cross between this species and C. Warscewiczii, the latter being the seed parent. The plant has now flowered for the first time, the flower being fairly intermediate in shape, and the characters of both parents easily traced. The sepals and petals are of a peculiar light buff with a tinge of pink—a colour rather difficult to describe—and the petals at present measure just under $3\frac{1}{4}$ inches long by $1\frac{1}{4}$ inches broad, and are slightly undulate. The lip is strongly undulate, and the front lobe and throat of a clear, bright, ruby crimson, without any trace of the yellow eyes of C. Warscewiczii, while the back part of the disc is veined with yellow on a reddish maroon ground, and on each side of this is a broad, yellow band, the margin and exterior of the side lobes being pale buff. The inflorescence is at present two-flowered, but when the plant becomes stronger it should develop into a very charming thing. M. Linden states that they have also flowered a hybrid between C. Rex and Lælio cattleya × elegans.

LÆLIO-CATTLEYA × AGNES.—This is a fine hybrid raised by Mr. A. J. Keeling, Cottingley, Bingley, from Lælio-cattleya × Schilleriana and L.-c × callistoglossa, the latter being the pollen parent. The flower is fairly intermediate, both in shape and colour, and the petals measure over $3\frac{1}{2}$ inches long by $1\frac{1}{2}$ inches broad. The inflorescence is at present two-flowered and the flowers were a little faded when received, but the colour seems to be delicate lilac-blush, with the front lobe of the lip and the apex of the side lobes rich purple and the throat paler. The resemblance to Lælia purpurata

is very marked, which is not surprising when one remembers that both its parents have half that species in their composition. An analysis of its descent shows that it is composed of half Lælia purpurata and one-quarter each of Cattleya Warscewiczii and C. intermedia, and it is curious to reflect that if a hybrid between the two species named were in existence and were crossed with Lælia purpurata, the product would be a hybrid of identical composition. As hybridization progresses we may expect to find examples of hybrids of identical composition which have been obtained from apparently different parentages.

CATTLEYA × FLAVESCENS.—A very distinct and pretty hybrid raised by Messrs. Charlesworth & Co., Heaton, Bradford, from Cattleya Forbesii ♀ and C. Dowiana aurea ♂. It most resembles the former in shape, but all the segments are greatly enlarged, the petals being an inch broad, and the lip much more open and more brightly coloured. The sepals and petals may be described as light buff tinged with salmon pink, and the disc and throat of the lip orange-buff, shading off to deep yellow on the very undulate front lobe and margin of the side lobes, the latter organs being pink outside. The characteristic veining of C. Dowiana is distinctly traceable on the disc and side lobes of the lip, though lighter in colour, but the deep purple colour is lost, though the influence of this species has yielded a greatly improved flower. It is also traceable in the habit of the plant, both monophyllous and diphyllous pseudobulbs being present. The scape at present is two-flowered.

LÆLIO-CATTLEYA × ISSY.—A very richly-coloured hybrid raised in the same establishment as the preceding from Lælia tenebrosa ♀ and Cattleya × Leopoldi ♂, and most comparable to a very dark form of L.-c. × elegans, especially in the characteristic shape. The sepals and petals are undulate and rich, bronzy purple-brown, and the front lobe, disc, and apex of the side lobes of the lip intense crimson-purple. It will evidently develop into a fine thing when the plant becomes strong, the present single-flowered scape being only a first attempt.

CATTLEYA × CHAMBERLAINIANA.—Although raised many years ago by Messrs. James Veitch & Sons—it flowered for the first time in 1881—this handsome Cattleya has remained very rare down to the present time. A two-flowered spike has just been sent from the collection of Sir James Miller, Bart., Manderston, Duns, N.B., by Mr. Hamilton. Its parents are C. Leopoldi and C. Dowiana aurea, whose characters it well combines. It is most like the former in shape, but larger, with the sepals and petals less spreading, and of a remarkable warm brown tint, which contrasts effectively with the rich crimson-purple lip. It is a striking thing.

LÆLIO-CATTLEYA × BINOTI.

LAST November the above interesting natural hybrid was described by Prof. Cogniaux (*Gard. Chron.*, 1890, xxviii., p. 370), as follows:—

"LÆLIO-CATTLEYA × BINOTI, Cogn., hybr. nat. nov.—At the end of last October I received from M. A. A. Peeters, nurseryman, of St. Gilles, Brussels, a curious Orchid found among a consignment of Cattleya bicolor sent from Brazil by M. P. Binot, of Petropolis. At first we thought this plant merely a form of C. bicolor with purplish-rose flowers; but a detailed examination showed that it differed from it in numerous points, of which the following are the principal:— Pseudobulbs diphyllous, or sometimes monophyllous, not exceeding four to six inches in length, with only from one to three joints; leaves pointed; peduncle very short and uniflorous; petals with margins very slightly waved; lip with the characteristic form of that of C. bicolor, but less thick, and more erect, furnished at the base with two small, rounded lobes, enfolding the base of the column, the terminal lobe almost flat, and entire at the summit, and above all, eight pollen masses, very unequal in size, characteristic of a Lælio-cattleya. This is, then, a hybrid, and one of the parents parents is certainly C. bicolor; the other must be a Lælia exhibiting the above-mentioned characteristics—very probably some form or other of L. pumila. The lip is clear orange-yellow at the extreme base, with small lateral lobes, white scarcely tinged with rose; all the rest a bright crimson purple, excepting the part near the slope of the summit, which is paler."

An artificially raised hybrid having similar characters has now flowered in the collection of the Right Hon. Joseph Chamberlain, M.P., Highbury, Birmingham. It was purchased from Messrs. W. L. Lewis & Co., though not with this recorded parentage. It is a very pretty little hybrid, and might almost be described as a bright purple Cattleya bicolor with the addition of a pair of small, roundish, yellowish-white side lobes to the lip, so much does it conform to the general shape of that species. There are, however, four small additional pollen-masses which, together with the dwarfed habit and modified texture of the flower, indicate Lælia pumila as the other parent. The petals are at present just under 2 inches long by $\frac{3}{4}$ inches broad, their colour with that of the sepals being bright mauve-purple, while the lip is rich purple-crimson right to the base, with the exception of the small, yellowish-white side lobes. Although I have not seen a flower of the preceding, it is quite evident that both were derived from the same parentage, so that it adds another to the list of natural hybrids which have also been raised artificially.

R. A. ROLFE.

PAPHIOPEDILUM × ROLFEI.

ALLUSION was made at page 287 of our last issue to the flowering of this interesting hybrid in the collection of W. M. Appleton, Esq., of Weston-super-Mare, and of its appearance at the R. H. S. Meeting on August 27th, when it received an Award of Merit. A photograph of the flower was taken by Mr. H. J. Chapman, and kindly forwarded for reproduction in our pages. Mr. Chapman recalls the doubt expressed about the parentage of the plant exhibited a few years ago (to which allusion was also made last

FIG. 46. PAPHIOPEDILUM × ROLFEI.

month), and remarks that there is not the slightest doubt about the present example, as the characters are so intermediate, and that this is especially well marked in the foliage—a character which we are not able to show. As to the flower, the shape and markings may be left to speak for themselves, and the colour Mr. Chapman describes as creamy white throughout, with the markings on the sepals and petals deep brown, and the spotting of the lip rose-purple, with a suffusion of rose in front.

The influence of P. Rothschildianum is unmistakable on this occasion, while the modified shape and the spotting on the lip are as clearly traceable to P. bellatulum. The photograph was taken exact size, but it is probable that the flowers will become larger when the plant becomes stronger, when also the hybrid may be expected to show the racemose character of P. Rothschildianum. It is a very interesting hybrid.

CALENDAR OF OPERATIONS FOR OCTOBER.

By H. A. BURBERRY, Orchid Specialist, King's Heath, Birmingham.

THIS month is, I always think, a most enjoyable one to the Orchidist. His labour of the past half year now becomes apparent. It is his harvest, so to speak, and the better and the more judiciously he has worked, so also will be the results attained. The plants should now have completely overcome the momentary checks caused by divisions, repotting, &c., and be well provided with vigorous new roots, and in order to make one cheerful he has only to note day by day—and it is impossible for a lover of Orchids not to do so—the effect of all this upon his plants. Even on those species that have finished up their pseudobulbs for a considerable time, and are now more or less ripened up, new roots will still bristle and thread their way, making as it were a tufted mat on the surface of the fresh new compost; whilst those new pseudobulbs that are now forming, or have recently done so, will be observed to broaden and fill up rapidly, assuming proportions second to none of their ancestors in size and substance. These are signs of past good work and of present healthy conditions.

The following table of temperatures may now be of some assistance as a guide, but it need not be too strictly adhered to. One must be guided principally by the reigning conditions of the weather and allow a rise or fall of from 5° to 10° as the elements dictate.

COOL OR ODONTOGLOSSUM HOUSE:—Day, 60°, night, 55°, morning, 50°. Fire heat here during the night will now again be pretty frequently needed, and also during the daytime should the weather be very cold and dull. It is best to have a gentle warmth in the pipes, if only for a few hours, so that reasonable ventilation may still go on. Much harm will be done to Odontoglossums if fire heat is employed excessively—they will not stand it. Have enough only to maintain a steady and regular temperature of from 50° to 60° with ventilation. This will be found to be by far the best temperature throughout the winter months. Odontoglossums grow none the better, but rather worse, if subjected to a very low winter temperature. Those among them having made up their bulbs should be given a rest by keeping them much dryer than others in full growth. Do not, however, dry to excess any that are in the midst of growth. Moderation with this

class of Orchid the whole year round is the safest and best course. Flower spikes will now gradually begin to appear on the most forward to mature their bulbs, but this fact need make no difference whatever to their treatment. The spikes will move slowly but surely, and are better if not in bloom until the new year. Do not let weakly or undersized pseudobulbs bloom, small spikes are nothing to look at, but are tremendous obstacles in the way of plants ever becoming strong. Damp down once or twice daily according to the amount of fire heat necessary. If no fire, no damping.

INTERMEDIATE, MEXICAN, or CATTLEYA HOUSES:—Day, 65° to 70°, night, 65°, morning, 60°.

EAST INDIAN HOUSE or STOVE:—Day, 75°, night, 70°, morning, 65°.

Regarding damping and the ventilation of the above departments a few words may here be said. Probably there is no other month throughout the year when less water is required for damping-down purposes. This arises from the following reasons. First, the great majority of plants have now completed their growth and others are fast approaching that state, they therefore require, not only less water direct, but a much less humid atmosphere. Others, too, having no apparent season of rest require less moisture, so that the new growth is somewhat hardened before the rigours of winter set in. Secondly, to secure the above desirable conditions of hardening a good deal of fresh air should be admitted. This outside air is at this season quite naturally pretty heavily charged with moisture, and therefore does not absorb the same from the interior of the house which certainly it does during the hot summer months. And, thirdly, only a small amount of artificial heat in the pipes is yet necessary, so that the atmosphere within cannot possibly become unduly dry or impoverished, like it can, for instance, during the winter, in times of severe frosts, or in summer, in hot, dry weather. It will therefore be seen that not nearly so much damping is now necessary as in either of the above instances; it may be required once a day or not at all, and the weather must be the sole guide.

CALANTHES.—The deciduous Calanthes will now be pushing their flower spikes to bloom during the mid-winter months. There are a good many hybrids of these now in cultivation, varying more or less in depth of colour and time of flowering. C. × Veitchii still holds its own, and upon this we still rely for the backbone of the great floral display given by the genus in due season. Great numbers of this beautiful hybrid from C. rosea and C. vestita rubro-oculata have been raised since the late Mr. Dominy first reared this deservedly famous cross, and naturally some varieties are of a higher standard than others. Many secondary hybrids have also been obtained through crossing C. × Veitchii with others of the vestita group and beautiful things many of them are. This section will now gradually cast their foliage, and must be watered with great moderation until the

blooming period, and still occupy a warm house. Another section of these which follow on and bloom during early spring are C. Regnieri, C. Turneri nivalis, and hybrids originating from them. They are much later before losing their foliage and consequently the treatment must be varied accordingly.

The evergreen section of Calanthes seems to be much less grown nowadays than they used to be. True from a showy or floral point of view they can scarcely ever attain to the high position of the deciduous kinds; still there is something noble in the healthy foliage and tall, stout, densely racemose, erect spikes, and finely grown specimens of C. veratrifolia, C. Masuca, C. × Dominii, or C. × Rollisoni, are worthy objects for the intermediate department. Leaf soil and fibrous loam forms a capital medium in which to grow them.

LÆLIA ANCEPS varieties, together with L. albida, and L. autumnalis, are now throwing up spikes and fast approaching their blooming season. Earlier in the season I recommend copious overhead syringing for these once or twice daily, but it is well to be more careful now, doing so only on warm and sunny occasions.

We shall still find during this as well as last month a considerable number of plants really the better for a little extra trouble bestowed upon them. The greater number of any particular species—say Cattleya Mossiæ or Odontoglossum citrosmum, for instance—are already in a forward and proper stage of growth, still there may be one or two greatly behind, and these should be treated more liberally with moisture and warmth, if that be possible—even if the second house is not available, much can be done by selecting positions. In every house there is generally one part that keeps warmer than the other. Late plants should occupy that part, together with others which naturally grow during the winter, such as Lælia purpurata, L. tenebrosa, L. crispa, Miltonias, &c.

ONCIDIUM TIGRINUM is now preparing to make a show in November. Like all Orchids, the less it blooms, the stronger it grows, but this species has peculiar habit in this direction. Most species invariably throw spikes when the pseudobulbs are of a maximum size, but this one frequently fails then, but on weakly plants, with small, spindly growths, the flower spikes usually appear, but needless to say they should be nipped off. Like a good many other species of the same genus, the production of a vigorous flower spike or two has hitherto been the forerunner of collapse, sure and certain, but I hope that a better order of things is in store now that old tree leaves seem to suit them so well for a rooting medium, coupled with a better idea of the long and complete rest required.

LEAF-MOULD.—In a former Calendar I mentioned tree leaves, oak and beech preferable to others, in a half decayed or flaky condition, as being

likely in the near future to supersede all other materials in which to grow Orchids. I am still inclined to this way of thinking, having this season given it a wide and varied trial. All kinds of Orchids have been tried; some have certainly done better than in the ordinary mixture of peat and moss, whilst others have succeeded equally well. The former include Odontoglossums, Oncidiums, Miltonias, Cypripediums, and similar kinds; the latter, Cattleyas, Dendrobiums, Angræcums, Aerides, and such kinds. I can therefore further recommend growers to try it for themselves, a few plants, at the time when repotting again is necessary. Get the pure leaves collected this autumn and stacked separately in a heap by themselves—in the open, of course—in spring they should then rub up a bit smaller and be ready for use. It is not necessary to use anything with them, and certainly not soil for the majority of Orchids. Use fewer crocks as drainage, and always surface with a good layer of clean sphagnum moss.

HYBRID LYCASTES.

If the remarkable Epiphronitis × Veitchii could have appeared as a natural hybrid one would scarcely have guessed its origin. Its resemblance to Sophronitis grandiflora is remote, and only traced with difficulty, yet we know that it is actually a hybrid seedling from it. Of course the pollen parent, Epidendrum radicans, grows in a totally different region, and the only object of the remark is to indicate one of the difficulties that may be met with in the study of natural hybrids. Reichenbach thought that Lycaste Smeeana might by a natural hybrid between L. Skinneri and L. Deppei, but after seeing the plant from several different sources, including the original one, I felt doubtful about its origin, and had a suspicion that it might not be a natural hybrid at all, adding:—"Further evidence is required" (*supra*, p. 101). Additional material is now, fortunately, forthcoming, and in the hope of clearing up the doubtful point I have again gone through the whole of the Guatemalan species, and with some interesting results.

Mr. R. Eichel, Eldwick, Bingley, has sent to Kew for determination the flower of a plant said to have "appeared amongst an importation of L. Skinneri," and it is noted that "the bulbs are very distinct, and short, like those of L. Deppei; the foliage also resembles the variety named." Messrs. F. Sander & Co., St. Albans, also send a flower of what is "supposed to be Lycaste Smeeana," together with a flower of L. Skinneri for comparison.

The first mentioned flower evidently belongs to L. × hybrida. The sepals are broad, light rose above and spotted with white below: the petals bear lines of numerous purple dots; the front lobe of the lip is regularly spotted with purple on a white ground, but with the narrow Deppei shape;

while the numerous dots on the side lobes are also arranged in lines. The face of the column is hairy and spotted with crimson, while the disc of the lip is also somewhat hairy, as in L. Skinneri.

The second flower belongs to L. Smeeana, and has white sepals and petals, the latter bearing innumerable rose-purple dots, chiefly towards the base, the front lobe of the lip nearly suffused with crimson-purple at the sides and bearing lines of densely arranged dots along the centre, the sides lobes more faintly dotted, except near the apex, where they are dark and numerous; the crest white, and the hairy face of the column heavily marked with crimson below and dotted about the middle. Further comparison only emphasises the distinctness of this plant from the preceding, but it also suggests a new idea as to its origin. I cannot find any single character that can be traced to the influence of L. Deppei, but the modifications from L. Skinneri all seem to be in direction of L. tricolor, of Klotzsch, and this, I think, must have been the mysterious second parent. This species was discovered on the volcano of Chiriqui in 1849, by Warscewicz, and is rare in cultivation. It would be interesting if some one would cross these two species together and let us know the result.

It should be mentioned here that the plant from M. Vanimschoot mentioned under L. Smeeana, at page 101, belongs to L. × Lucianiana, a fact overlooked until afterwards.

A difficulty one meets with in the study of these natural hybrids is our very imperfect knowledge of the geographical area of some of the species. L. Deppei is known to be a native of South Mexico, L. Skinneri of Guatemala and the adjourning state of Honduras, yet it is almost certain that their areas somewhat overlap, for the so-called L. Deppei punctatissima (L. × hybrida) is said to have been received from Guatemala with L. Deppei, and the occurrence of a *bona fide* natural hybrid between any two species is *prima facie* evidence that they grow together. And if my suggestion about L. × Smeeana is correct, L. tricolor must also grow somewhere with L. Skinneri. It was discovered on the Chiriqui Volcano, at 7,000 to 8,000 feet elevation, by Warscewicz, and I have also found a record "Guatemala," though I cannot see precisely on what record it is based. The only strictly localized record of L. Skinneri that I find is Alta Verapaz, in the Coban Department, Guatemala, at 4,500 feet elevation, where it was collected bp Turckheim. But we have now strong grounds for suspecting that the areas of the two species overlap. If anyone is in the possession of definite information on these important points I hope he will not fail to communicate it, for these problems are worth clearing up, and Lycaste is not the only genus in which similar geographical difficulties are found.

R. A. ROLFE.

LÆLIO-CATTLEYA × LEEANA.

A MOST interesting plant has just flowered in the collection of the Right Hon. Joseph Chamberlain, M.P., which I feared had been completely lost sight of, namely the natural hybrid, Lælia × Leeana, Rchb. f. Altogether I transferred it to Lælio-cattleya many years ago, the absence of a flower and some doubt about its actual parentage prevented its history being cleared up until now. It was described by Reichenbach in 1882 (*Gard. Chron.*, 1882, xvii, p. 492), as follows:—

"LÆLIA × LEEANA, n. hybr. (?).—A fine thing. At first sight I thought of Lælia and Cattleya Dormaniana; but both the short rather tumid furrowed shining bulb, and the flat spreading flower colours suggested Cattleya superba, while the column top made me think of Lælia pumila. As to the perfume, which is rather powerful in Cattleya superba, I cannot speak about it in this novelty, the weather being very cold, and the perfume of flowers being subject to changes from time of the day, age of the flower, and individuality. My flower is rather scentless. I have no experience, however, of the two mentioned species growing together, and if any of the readers of these columns could give some evidence about this, it might prove very useful. The stellate rather narrow sepals and petals are of a fine rose colour, as in a very fine Cattleya Harrisoniana. The lip is of the purest white, the tips of the lateral laciniæ, which lie on the broad obcordate middle lacinia, are of the finest and warmest purple. There are veins of the same colour running forwards under acute angles on both sides of the middle line between the lateral laciniæ, but they do not extend far. The column has purple ears, a fine purple border to the stigmatic hollow, and a like more pallid wash at the inner base. Pollinia four, with an emarginate back, showing two bodies cohering, and the candicula cohering on both sides. Though it is said to have lost its original beauty, after having flowered nearly three weeks, I am very satisfied with it, and think it a novelty. The *pièce de resistance*, indeed, is the lip. I feel very pleased to inscribe the plant to one of the most excellent Orchidists of our era, the lucky possessor, Mr. W. Lee, Downside, Leatherhead. May this gentlemen never be infected by that abominable contagious disease, the Orchidophobia."

It is interesting to be able to clear up these doubtful points. The present flower agrees well with the description except that the side lobes are not white, but outside of nearly the same rosy shade as the sepals and petals, nor should I describe the flower as stellate, seeing that the petals are fourteen lines broad. But why Reichenbach should have invoked the aid of Cattleya superba, which does not grow in the same district as Lælia pumila, to explain the origin of his plant is not clear, especially as a plant which

does grow in the district would have done equally well. I fail to trace any of the characters of C. superba, but C. Loddigesii is written large all over the flower. The shape and colour are just what would be expected from a cross—one does not expect to find the characters of any parent handed on unmodified—and on spreading the lip open the pale yellow colour and arrangement of the nerves so characteristic of C. Loddigesii are unmistakable. The dwarfed habit of the plant, the sometimes monophyllous pseudobulbs, the four additional pollinia (now normally developed), and the rich purple of the front lobe of the lip, are especially eloquent about Lælia pumila. And the problem may be attacked by another method, as fortunately artificially raised hybrids from the two species are in existence, and a comparison between them leaves no doubt that all are derived from the same two species. L. pumila ♀ crossed with C. Loddigesii by M. Ch. Maron, produced Lælio-cattleya × blesensis (*Will. Orch. Alb.*, xi., t. 519, syn. Cattleya × blesensis, *Rev. Hort.*, 1893, p. 424, with plate), and C. Loddigesii ♀ crossed with L. pumila ♂ by M. Perrenond, yielded L.-c. × Vedasti, *Orchidophile*, 1891, p. 48, with plate), and must now rank as forms of this interesting natural hybrid which has for so long remained imperfectly known.

R. A. Rolfe.

LÆLIA GRANDIFLORA ALBA.

When giving the history of this plant at page 202 it was remarked:—"The white variety is very rare, if indeed it exists in Europe." We have since found an earlier record of the variety, though, unfortunately, it does not clear up the doubtful point. At all events Reichenbach wrote the following note in 1880 (*Gard. Chron.*, 1880, xiv., p. 588). What ultimately became of the plant we do not know.

"Lælia majalis alba.—Mr. Petrasch, one of the numerous Roezlian nephews, has had the good fortune to gather a white form of Lælia majalis. If the plant should come into the hands of anyone who can manage the shy flowers, then we may have cause to well satisfied. Generally, one thinks that ventilation constitutes the secret of flowering this shy plant; it may be so, but I have no doubt that intensity of light is the one other requisite. I have seen beautiful flowers of a grand expansion only in England. I remember the glorious flowers seen in the Royal Exotic Nursery, Chelsea. Yet all those flowers had the most pallid colouring. My native grown dried flowers, though collected nearly forty years ago, show much brighter colour. Thus, I am afraid, this is one of those species which offer to New York and Paris growers the uncommon opportunity of beating their English *confrères*."

ODONTOGLOSSUM CRISPUM STEVENSII.

THIS superb variety appeared in the collection of the Duke of Sutherland, at Trentham, and was exhibited at a meeting of the Royal Horticural Society on March 14th, 1882, when it recived a First-class Certificate. The *Gardener's Chronicle* report of that meeting (1882, xvii., p. 378) records it as follows:—"Odontoglossum crispum var. Stevensii, from Mr. Stevens, Trentham, a form with flowers measuring 3 inches across; sepals oblong-lanceolate, petals of the same form but waved at the edges, heavily barred and spotted with brown; lip oblong, spotted, with a clear yellow

FIG. 47. ODONTOGLOSSUM CRISPUM STEVENSII.

disc." It was afterwards figured in the *Orchid Album* (iii., t. 127), as O. Alexandræ Stevensii, when it was remarked, "the sepals and petals are white heavily spotted and blotched with pale sienna brown, and the lip is white, having a large blotch of the same colour on the anterior part, and numerous smaller spots towards the base, where the yellow disc is prominent and adds life to the colouring." It was probably exhibited under the latter name, being so marked in the list of R. H. S.

awards. The plant, or part of it, afterwards passed into the collection of Baron Schröder, and the following very interesting account of its progress appeared in 1889 (Rolfe in *Gard. Chron.*, 1889, v., p. 490) :—"A fine raceme of this very beautiful variety, kindly sent for preservation by Baron Schröder, of The Dell, Egham, Surrey, through Messrs. Veitch & Sons, well illustrates the improvement wrought by skilful cultivation in many Orchids. The raceme bears twenty flowers, which measure 4 inches from tip to tip of the petals, and $4\frac{1}{2}$ inches from tip of dorsal sepal to the tip of either of the lateral ones. Such massive and well developed flowers reflect great credit on the skill of the gardener in whose charge the plant is. There is said to be a certain amount of variation in the number of spots from year to year." Our figure represents a flower from Baron Schröder's plant, the photograph having been taken at a subsequent period, and kindly forwarded to us by Mr. G. I'Anson, Bush Hill Park.

LÆLIA DIGBYANA AS A SEED-PARENT.

On page 13 of the present volume some remarks are made upon Lælia Digbyana as a seed-parent, which would lead one to suppose that it is a difficult matter to raise seedlings of it. Having two good capsules of it fertilized by Cattleya Warscewiczii and C. Mossiæ, which, in June, both showed signs of ripening by cracking, the seeds were sown upon several hanging pans in which other Orchids were growing. We can now see seeds of both crosses germinating and forming their first and second leaves. As a seed-parent we have not found Lælia Digbyana as prolific as when used as the pollen parent. I think the above may interest your readers.

James Godfrey,
(Gardener to Dr. C. B. Cranstoun).

Ludlow.

[A very interesting confirmation of the facts previously recorded, which was that the raising of seedlings of Lælia Digbyana is not so difficult as sometimes supposed. It is interesting to mention in this connection that when Cattleyas and Lælias are fertilized with the pollen of Sophronitis grandiflora the fertile seeds are mostly found at the apex of the capsule, and have a brownish tinge, while those at the other end are white and fluffy, and contain no embryos. Divide such a capsule longitudinally when ripe, and a sharp dividing line may sometimes be seen, beyond which the pollen tubes have not reached, and consequently the ovules have not been fertilized. The fertile portion may be removed and sown, neglecting the remainder. This is just what Mr. Black observed in the case of Lælia Digbyana, and in each case the peculiarity may be traced to the relative length of the column and ovary of one parent as compared with that of the pollen tubes of the other.—Ed.].

SOCIETIES.

ROYAL HORTICULTURAL.

A MEETING of the above Society was held at the Drill Hall, Buckingham Gate, Westminster, on September 10th, when the Orchid exhibits were not very numerous, no groups being staged. The members of the Orchid Committee present were :—H. J. Veitch, Esq., in the chair, and Messrs. T. W. Bond, H. J. Chapman, W. Cobb, De B. Crawshay, J. G. Fowler, E. Hill, H. M. Pollett, J. W. Potter, W. H. Young, W. H. White, and J. O'Brien (Hon. Sec.).

J. T. Bennet-Poë, Esq., Holmewood, Cheshunt (gr. Mr. Downes), showed a fine example of a plant called Epidendrum purum, for which a Botanical Certificate was awarded. It is, however, E. lanipes, Lindl.; and its history is given on another page.

De B. Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), showed cut spikes of Miltonia Regnellii citrina, and a plant called M. × Crawshayana, labelled as a supposed natural hybrid between the last named and M. Clowesii. From an account on another page it will be seen that it is a form of M. × Binoti, a natural hybrid between M. Regnellii and M. candida.

A. S. Smith, Esq., Silvermere, Cobham, showed Lælio-cattleya × Zephyra (L. xanthina × C. Mendelii).

J. G. Fowler, Esq., Glebelands, South Woodford (gr. Mr. Davis), showed Lælio-cattleya × Nysa, and a few good forms of L.-c × elegans.

W. Cobb, Esq., Dulcote, Tunbridge Wells (gr. Mr. Howes), showed flowers of two hybrid Cypripediums.

Mr. T. Rochford, Turnford Hall Nurseries, Broxbourne, exhibited Cattleya × Hardyana Rochfordiana, which received a First-class Certificate. This is a very handsome form, having creamy-white sepals slightly flushed with rose, very large white petals faintly freckled with rose near the tips, and a broad, undulate, purplish-crimson lip, veined throughout with bright yellow.

Messrs. Charlesworth & Co., Heaton, Bradford, showed two fine hybrids, both of which received Awards of Merit. Sophrolælia × Gratrixiæ (L. tenebrosa Charlesworthii × S. grandiflora) is intermediate both in shape and colour between its two parents. The flower is brilliant purplish-red in colour, the sepals and petals being tinged with orange, and the lip lined and suffused with dark claret. The plant is a small one, flowering for the first time, and should develop into a sterling thing. Cattleya × Germania (granulosa Schofieldiana × Hardyana) has an exceptionally fine flower, fairly intermediate in character. The broad sepals and petals are cream white in colour, tinged with rich mauve, and the lip is

strongly three-lobed, with the side lobes light rose in colour and the front lobes purple.

A SECOND meeting was held on September 24th, and on this occasion there was a very fine show of Orchids. There were present of the Orchid Committee :—H. J. Veitch, Esq., in the chair, and Messrs. H. Ballantine, W. A. Bilney, H. J. Chapman, W. Cobb, De B. Crawshay, J. Douglas, E. Hill, H. Little, J. W. Odell, H. M. Pollett, J. W. Potter, H. A. Tracy, W. H. White, W. H. Young, and J. O'Brien (Hon. Sec.).

Captain Holford, Westonbirt, Tetbury (gr. Mr. Chapman), showed a magnificent group, which was most effectively arranged with small Kentia palms and other light foliage plants. It contained a fine series of Dendrobium Phalænopsis forms, ranging from blush-white to rose and purple, over one hundred and fifty fine sprays being present. In the front were several small groups of Cypripedium Charlesworthii, Lælia pumila, Dendrobium formosum, &c. A Gold Medal was awarded.

Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), staged a fine group, for which a Silver Banksian Medal was given. It contained a fine specimen of Maxillaria striata grandiflora, Cycnoches chlorochilon, Habenaria militaris, a finely-flowered example of Promenæa stapelioides, Cypripedium × Helvetia, C. × Morganiæ, C. × T. B. Haywood, Warscewiczella marginata, Dendrobium glomeratum, and others. Læliocattleya × præstans-bicolor (L. pumila præstans × C. bicolor) received an Award of Merit. This is a form of L.-c. × Binoti, whose history is given on another page. Botanical Certificates were awarded to Odontoglossum Wallisii and O. bictoniense album. A similar award was given to Mormodes Oberlanderianum, a rare species, having yellowish sepals and petals and a cream white lip, and all these organs more or less spotted with purple. Cypripedium × œnanthum, bearing twenty-five flowers, received a Cultural Commendation.

W. Cobb, Esq., Dulcote, Tunbridge Wells (gr. Mr. Howes), showed Cypripedium × Evenor superbum.

M. S. Cooke, Esq., Tankerville, Kingston Hill (gr. Mr. Buckill), sent a good form of Odontoglossum × mulus, with unusually broad segments.

D. M. Grimsdale, Esq., Kent Lodge, Uxbridge, showed six good examples of Oncidium Forbesii.

Sir W. Marriott, Bart., Down House, Blandford (gr. Mr. Denny), exhibited an unnamed hybrid Cattleya (Gaskelliana × Eldorado) and Læliocattleya × Atalanta (L.-c. × elegans × C. Warscewiczii).

J. S. Moss, Esq., Bishop's Waltham (gr. Mr. Kench), sent a form of eya Gaskelliana with some orange lip-like markings on the lateral sepals.

T. W. Thornton, Esq., Brockhall, Weedon, sent cut examples of Cattleya Leopoldi, Lælio-cattleya × Berthe Fournier (C. Dowiana aurea × L.-c. × elegans) and L.-c. × Ella (L. grandis × C. intermedia).

M. Ch. Maron, Brunoy, France, showed Lælio-cattleya × Madame Chas. Maron (L. Digbyana × C. Warscewiczii imperialis), a very fine hybrid, which received a First-class Certificate. The flower was very large, light purple-rose in colour, with a large greenish-yellow disc to the lip, which was heavily fringed.

Messrs. Stanley Ashton & Co., Chase Side, Southgate, were awarded a First-class Certificate for Cattleya Lueddemanniana Stanleyi, having a beautiful white flower of fine shape, with the disc of the lip yellow and the front lobe lined with purple.

Messrs. Hugh Low & Co., Bush Hill Park, received a Silver Flora Medal for a fine group, containing Cypripedium × Lucie (Lawrenceanum × ciliolare), C. × Nandii (niveum × callosum), C. × Charles Canham, C. purpuratum, Cattleya Loddigesii, C. Gaskelliana alba, C. × Minucia Ashtoni, Lælio-cattleya × callistoglossa, L.-c. × Epicasta, Odontoglossum grande, Oncidium ornithorhynchum, O. Papilio, and Miltonia Regnellii citrina.

Messrs. Charlesworth & Co., Heaton, Bradford, showed Lælio-cattleya × Haroldiana (L. tenebrosa × C. Hardyana) and three other fine hybrids. An Award of Merit was given to L.-c. × Galatea (L. Dayana × C. granulosa Schofieldiana), a pretty flower having the sepals and petals light purple in colour, and the lip pale rose at the base, with the tips of the side lobes and the front lobe dark purple. A similar award went to Cattleya × flavescens (Forbesii × Dowiana aurea), a handsome thing, having yellow flowers tinged with pink, and the disc of the lip a deep orange spotted with purple-red in the centre. A third Award of Merit was given to Cattleya × Iris (bicolor × Dowiana aurea), a handsome flower having the sepals and petals green, tinged with bronze, the short side lobes of the lip blush-white, and the front lobe bright rose-purple.

Messrs. James Veitch & Sons, Chelsea, showed Lælio-cattleya × bletchleyensis Rorania (L. tenebrosa × C. Warscewiczii), a large flower, having the sepals and petals white tinged with rose, and the lip purple.

Mr. James Douglas, Edenside, Great Bookham, sent Cypripedium × Clytie (Stonei × caudatum) with whitish flowers, the petals spotted with purple, and the upper sepal striped. The lip was suffused with purple. C. × Youngianum superbum was also sent.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

A MEETING was held on September 5th, when there was a fair display of Orchids.

S. Gratrix, Esq., West Point, Whalley Range, (gr. Mr. Cypher), exhibited the handsome Cattleya × Chamberlainiana, which received a First-class Certificate, Lælio-cattleya × New Century (Cattleya velutina × Lælia elegans) which received an Award of Merit: Cypripedium × Mrs. Chas. Canham (Award of Merit), and a good form of Cypripedium × Maudiæ.

O. O. Wrigley, Esq., Bridge Hall, Bury (gr. Mr. Rogers), sent Brassia Wrayæ, Cypripedium Spicerianum magnificum (Award of Merit), and a hybrid Cypripedium derived from C. tonsum × Lawrenceanum (Award of Merit).

Mrs. Briggs-Bury, Bank House, Accrington (gr. M. Wilkinson), sent a hybrid Cattleya bicolor × gigas, a fine thing, which received an Award of Merit, Cypripedium × Milo, C. × Maudiæ, and C. tonsum × œnanthum superbum.

T. Statter, Esq., Stand Hall, Whitefield (gr. Mr. Johnson), exhibited a hybrid between Cypripedium philippinense and C. Rothschildianum.

Mr. W. Holmes, Timperley, exhibited Cypripedium insigne aureum.

Messrs. Charlesworth & Co., Heaton, Bradford, received a First-class Certificate for Cattleya × Hardyana Charlesworth's var. Other plants exhibited were Miltonia × Peetersiana, Cattleya × intricata maculata, Oncidium incurvum album, O. ornithorhynchum, and Cypripedium × Sir Redvers Buller.

EPIDENDRUM LANIPES.

An Epidendrum from the collection of J. T. Bennett-Poe, Esq., Holmewood, Cheshunt, was awarded a Botanical Certificate by the Orchid Committee of the R. H. S. on September 10th, under the name of E. purum (*Gard. Chron.*, 1901, xxx., p. 210), but an inspection of the inflorescence shows that it belongs to the allied E. lanipes. The two species are very easily distinguished, as E. purum, Lindl., has the pedicel and ovary glabrous, while in E. lanipes, Lindl., these organs are more or less copiously covered with a cottony or woolly tomentum. E. lanipes was described by Lindley, in 1853 (*Fol. Orch.*, Epidendr., p. 91), from dried specimens collected by Matthews at Chachapoya, in Peru, the author remarking:—"Flowers apparently yellow, in a panicle nine inches long, and as much broad. The woolly ovary is quite peculiar." It was afterwards collected on old trees at "Chailla," by Pearce, who noted the flower as "white." It is a little uncertain when it was first introduced to cultivation, but it flowered with Messrs. B. S. Williams & Son, Upper Holloway, in February, 1890, with Messrs. Linden, of Brussels, in the following August, and with Messrs.

John Cowan & Co., of Gateacre, in March, 1890, the habitats given being respectively United States of Columbia, Venezuela, and Santander, in Columbia, from which, in would appear to have a rather wide distribution. It is very floriferous, and, when well grown, is a very graceful plant.

R. A. R.

NOTES.

Two meetings of the Royal Horticultural Society will be held at the Drill Hall, Buckingham Gate, Westminster, during October, on the 15th and 29th respectively, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The Manchester and North of England Orchid Society will hold meetings at the Coal Exchange, Manchester, on Friday, October 11th, and Thursday, October 24th. The Orchid Committee meets at 12 o'clock noon, and the exhibits are open to inspection from 1 to 3 p.m.

"N.B. Members are requested to state parentages of all hybrid Orchids submitted for adjudication when possible, otherwise they are liable to disqualification."

A paper on the "Culture of Calanthes" is to be read at a meeting of the Cardiff Gardeners' Association, on November 12th next, by Mr. Sharratt, representative of the Newport Gardeners' Association, and another on "Orchids," on January 21st, 1902, by Mr. Lee, representative of the Bristol Gardeners' Mutual Improvement Association.

Another part of Messrs. Cogniaux and Goossens' *Dictionnaire Iconographique des Orchidées* has just reached us, and contains the following plates:— Aërides Vandarum, Rchb. f.; Angræcum stylosum, Rolfe; Ansellia confusa, N. E. Br.; A. gigantea, Rchb. f.; Cattleya Trianæ var. Schrœderæ alba; Cypripedium × Youngiæ, Hort.; Dendrobium transparens, Wall.; Epidendrum fragrans, Sw.; Lælio-cattleya × Imperatrice de Russie; Masdevallia Schrœderiana, Hort.: Odontoglossum × Adrianæ, L. Lind.; O. × A. var. André, and O. × A. var. Queen Alexandra. In the corresponding number of the *Chronique Orchidéene* is a short article by M. Otto Ballif on Cattleya chocoensis, but the name is changed to C. caucaensis, in accordance with a note by M. Roezl that the plant does not grow in Choco at all, but in the state of Cauca, and therefore the name is misleading. But now that the plant has been identified with the older C. quadricolor, Lindl., there is no need for the change of name. A complete history of the plant may be found at p. 145 of our sixth volume, together with a figure.

An illustration of the Lælio-cattleya × elegans house at The Woodlands, Streatham, is given in the issue of *The Garden*, for September 21st (page 201).

A flower of the pretty little Lælio-cattleya × Parysatis (C. Bowringiana × L. pumila) is sent from the collection of E. F. Clark, Esq., of Teignmouth.

ORCHID PORTRAITS.

CATTLEYA × CALUMMATA VAR. GRIGNANI.—*Lindenia*, t. 749.

CYPRIPEDIUM × BRUXELLENSE.—*Lindenia*, t. 751.

CYPRIPEDIUM EXUL VAR. AURANTIACUM.—*Lindenia*, t. 746.

EPIDENDRUM OSMANTHUM, Rodr.—*Bot. Mag.*, t. 7792.

LÆLIA HARPOPHYLLA.—*Journ. Hort.*, 1901, xliii., p. 283, with fig.

LÆLIO-CATTLEYA × DIGBYANO-MENDELII, VEITCH'S VAR.—*Gard. Chron.*, 1901, xxx., pp. 204, 207, fig. 63; *Journ. Hort.*, 1901, xliii., pp. 237, 239, with fig.; *Gard. Mag.*, 1901, pp. 594, 597, with fig.

LÆLIO-CATTLEYA × PRINGIERSI.—*Lindenia.*, t. 750.

ODONTOGLOSSUM HALLII EDWARD VII.—*Gard. Mag.*, 1901, p. 630, with fig.

ODONTOGLOSSUM × LEEANUM.—*Journ. Hort.*, 1901, xliii., p. 193, with fig.

OCIDIUM LEUCOCHILUM.—*Journ. Hort.*, 1901, xliii., p. 215, with fig.

ONCIDIUM TIGRINUM VAR. SPLENDIDUM.—*Lindenia*, t. 747.

ONCIDIUM VARICOSUM VAR. LINDENI.—*Lindenia*, t. 752.

TRICHOCENTRUM ALBOPURPUREUM.—*Lindenia*, t. 748.

ZYGOPETALUM BURTI VAR. WALLISII.—*Lindenia*, t. 745.

CORRESPONDENCE, &c.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they may have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.)

J. G. A fine form of Lælio-cattleya × callistoglossa, we believe.

D. W. Epidendrum lanipes, Odontoglossum × Humeanum (small), Dendrobium anceps, and Paphiopedilum at present doubtful.

A. H. Odontoglossum tripudians, Cymbidium longifolium, and Anguloa eburnea.

E. J. C. Epidendrum ciliare.

B. J. B. Miltonia × castanea.

J. B. Cattleya Lueddemanniana, C. Leopoldi, and Brassavola grandiflora.

T. S. Odontoglossum × Coradinei, two flowers united together.

Received. D. B. C, H. J. C., L. L., R. Y., next month, E. F. C., J. H.

Several notes are unavoidably held over until next month.

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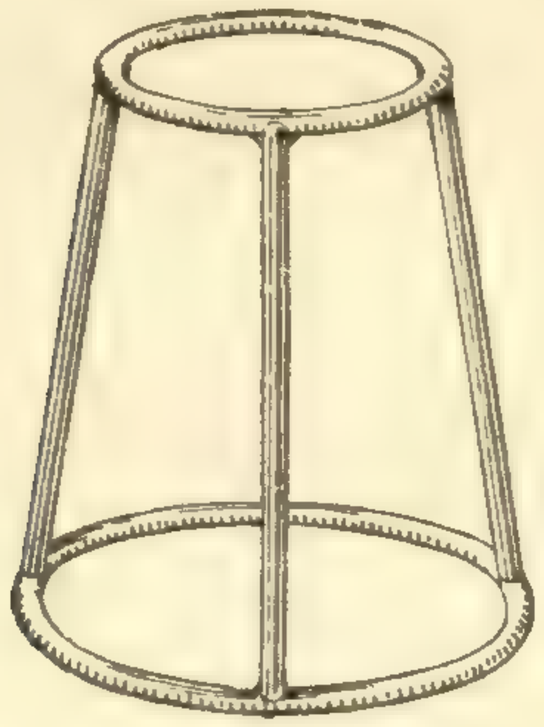

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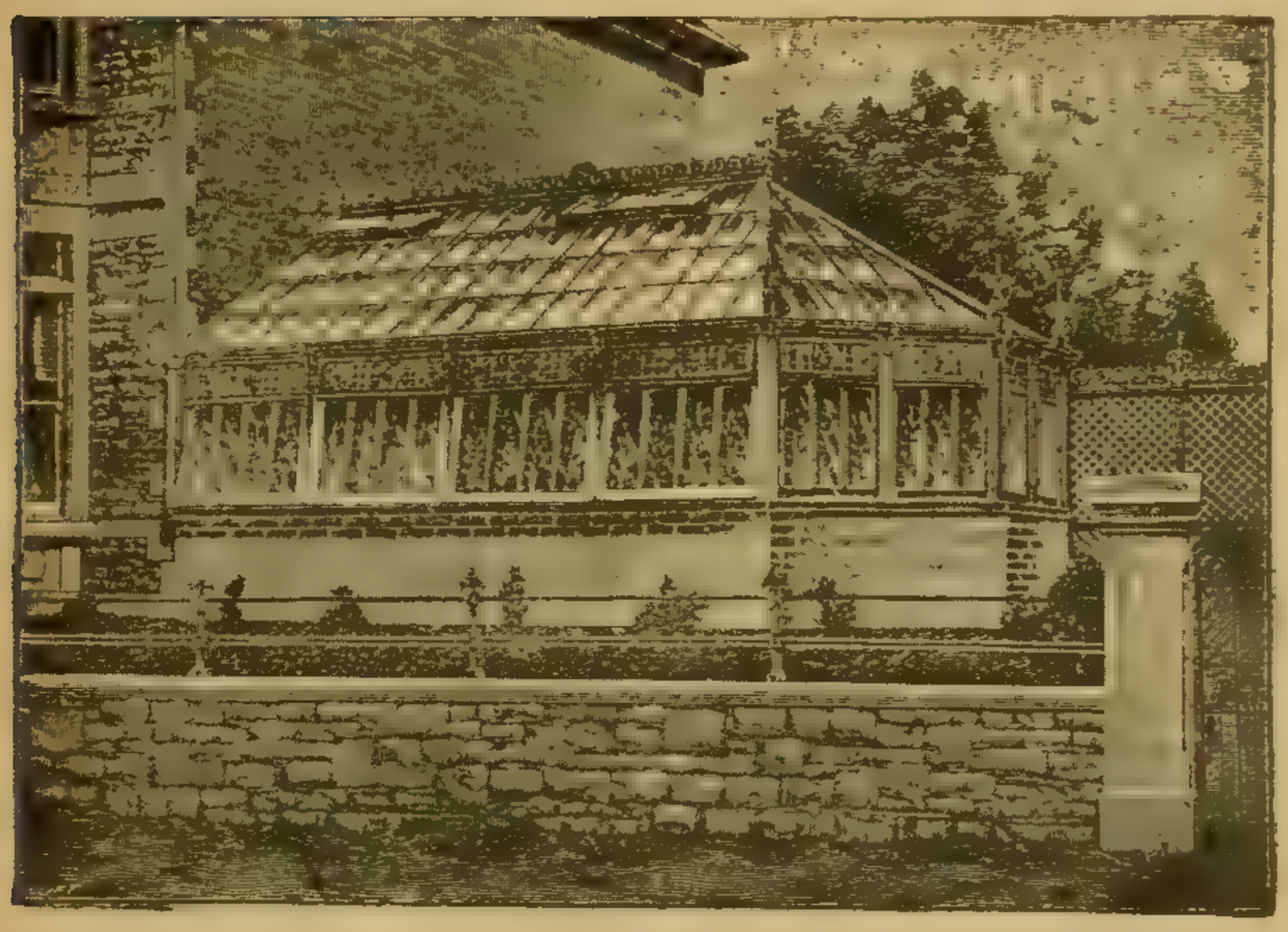

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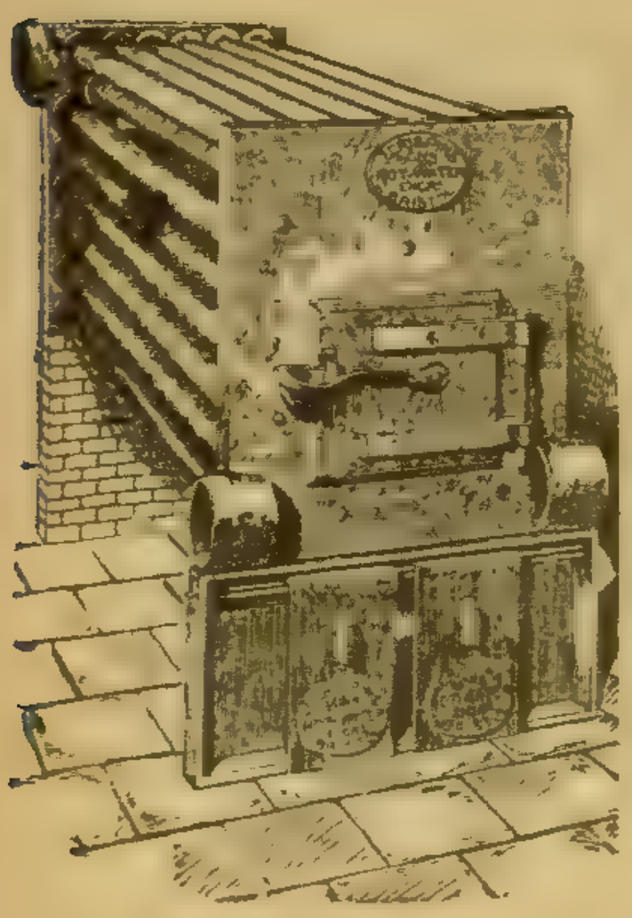

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THE ORCHID REVIEW:

An Illustrated Monthly Journal,

DEVOTED TO ORCHIDOLOGY.

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THE ORCHID REVIEW.

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DIES ORCHIDIANI.

THE appointment of a Commission to examine the system of growing Orchids in leaf-mould is an important event in the Orchid world, and the report appears in the "May" number of the *Journal de la Société d'Horticulture de France* (pp. 446-449). On account of the importance of the question, Messrs. Duval et fils, who have adopted the system, requested the Society to appoint a Commission to visit their establishment and report. The Commission was appointed as follows :—M. Galpin, President, and Messrs. Belin, Cardoso, Doin, Driger, Gautier, Graire, Georges Mantin, Opoix, Henri Vacherot, and L. Cappe, Secretary. The questions submitted were :—Is the new method advantageous ? Should it be recommended ? What are the advantages which result from it ? The Commission visited Messrs. Duval's establishment on May 8th, and their report was presented to the Society on May 23rd. The following is a summary :—

———

The compost used is not ordinary leaf-mould, obtained by collecting large quantities of leaves in heaps and allowing them to decay, but is a sort of humus collected from the upper part of the soil of the forest, which is found mixed with dead leaves and decaying twigs. This soil should not be collected indiscriminately ; the cultivator should make a selection of those portions that are light, soft to the touch, and a little sandy, if possible. The plants are potted like ordinary palms or Dracænas. Pots are chosen sufficiently large to accommodate the plants for several years without being disturbed : that is, to allow sufficient room for the new growths to develop without getting over the rim of the pot. A crock is placed over the hole in the pot, and the plant is then held so that the crown is level with the rim, while the compost is pressed lightly in, the pot being tapped sharply several

times on the bench, so as to settle the soil among the roots, and hold the plant firm. The compost is left a little below the rim of the pot, and this space is then filled with a thin layer of sphagnum, to ensure a light humidity and facilitate the emission of roots. It may be added, however, that Messrs. Duval consider the sphagnum superfluous, because after trial they find that the shoots push as well without it.

Although the new method differs considerably from the existing one, there is nothing very difficult to understand until we come to the question of watering. Habituated as we are to the system of saturating our Orchids with water during the growing season, it is somewhat perplexing when Messrs. Duval tell us that it is not necessary to water the plants. A light syringing of each pot maintains a degree of humidity, very moderate it is true, but sufficient to prevent the soil from becoming dust dry. If the plants are watered it should be done with great moderation, and instead of saturating the whole of the compost, it is sufficient to moisten the upper part, and the moisture descends along the sides of the pots, where, under good culture, such a profusion of roots is found. This watering should always be performed by the same person, who should be able to estimate at a glance the hygrometric state of the compost in the interior of each pot. So important is this operation considered by M. Delanghe, the well-known horticulturist of Brussels, who initiated the system of culture in leaf mould, that he waters his Orchids himself, only trusting to his own experience as to the conditions of humidity or dryness which he considers necessary. By using this compost M. Delanghe has obtained marvellous results, and it is this which led Messrs. Duval to adopt it, and they have recognized its superiority by this year repotting the whole of their eleven houses of Orchids in it.

After giving all these explanations, Messrs. Duval conducted the Commission through all their houses of Orchids, and they appeared so confident of the success of the system that they commenced by showing us a new importation of Cattleya labiata which had been potted up on its arrival directly into this compost. We next saw some Cattleyas which had been in this compost for several years, and these comprised C. labiata, C. Trianæ, and others which had just finished their period of repose, and which had not the seductive aspect of plants in full vegetation, as seen in August and September; but they appeared to us very green and well nourished; and what excited our curiosity was that each pseudobulb of the previous year had produced two growths, thus giving promise of a double flowering next year.

The Odontoglossums appeared to us very happy and very vigorous, each pseudobulb showing an appreciable advance on the preceding one, and the number of spikes was equally large and promised an abundant flowering. Dendrobiums were also very healthy under the treatment. Miltonias had luxuriant vegetation, especially M. Moreliana, which always has the leaves and pseudobulbs yellowish, but here was completely green and glowing with health. But the most astonishing results that we saw were in the case of Oncidiums, whose pseudobulbs had attained extraordinary proportions. Cypripediums with marbled leaves, as C. Lawrenceanum, C. Curtisii, &c., were of astonishing vigour; those with green leaves, as C. insigne and C. × Leeanum, appeared less vigorous.

At the end of our visit the members of the Commission were agreed that they obtained sufficiently good results by culture in polypodium, but it appeared to them that culture in the new compost should be much more simple, and that the results ought to be obtained with more facility. Polypodium is very costly in comparison with leaf-mould, being nearly the same price as ordinary peat. The preparation of polypodium takes much longer, and the waste is much greater. Again, when one has put his plants in sufficiently large pots they can remain several years without being overhauled, and the smaller quantity of water used tends to prevent the decay of the compost. These results are not obtainable with polypodium, which requires frequent waterings, and in consequence results in the decay of the compost in two or three years. Apropos of this last theme, Messrs. Duval had obtained from the establishment of M. Delanghe a clump of Cattleya Mossiæ which was potted in this compost five years ago (1895), and had not been since touched. We broke the pot, and were astonished to find that the compost was quite fresh, and in sufficiently good condition to be used to-day.

Messrs. Duval estimate, further, that this treatment gives more vigorous plants, tends to preserve those species which usually decline in vigour after a period of three to five years, quickens the growth of choice varieties or delicate species, and facilitates its propagation by division with greater safety.

The Commission does not draw definite conclusions from their visit, and would not advise amateurs of Orchids to throw themselves headlong into the new culture, as the procedure, being so little in accord with all the admitted theories up to this date, might prove disastrous. But they do not wish to condemn the new treatment, especially when they find it extolled by able practitioners. They recommend experimenting with a small

number of plants, so as to find out the requirements of the new culture before adopting it. It is certain that the new culture is possible, because Messrs. Duval practise it in their large establishment, and the plants grow and flower to their satisfaction. If this culture becomes general, it will certainly result in a great economy of time and material.

The members of the Commission, having made their visit when the plants were beginning to grow, that is, at the period of repotting, desire to renew their visit when the plants are in full growth. They would then be better able to judge of the advantages of the new method of culture.

Messrs. Duval requested this Commission with the generous aim of popularising a new method of culture which seemed to them advantageous, and the Commission offers them its sincere congratulations and thanks for the disinterestedness with which they have shown the results of their experience; and, with the aim of making the subject better known, the Commission requests the insertion of its report in the Journal of the Society.

So much for the Report. I had intended to offer some comments thereon, but, as my summary has extended to greater length than I anticipated, these remarks must be deferred.

ARGUS.

LÆLIO-CATTLEYA × WILSONIÆ.

AT the R. H. S. meeting on October 15th an Award of Merit was given to a handsome hybrid called Lælio-cattleya × Wilsoniæ, from the collection of Sir Frederick Wigan, whose parentage is recorded as L. Dayana × C. labiata. The flower drawn by Miss Roberts for the R. H. S. collection of drawings has now been kindly sent to us by Mr. Chapman, and an examination raises the question whether the parentage has been correctly recorded, for it seems to be intermediate between L. pumila and C. Warscewiczii. The general shape recalls L. pumila, and on the front of the lip is a small, lilac-coloured area which is quite characteristic of this parent, while we fail to find any trace of the raised keels of L. Dayana. As to the second parent, the very richly coloured lip with a yellow, eye-like blotch on each side of the throat vividly recalls C. Warscewiczii. It should be compared with L.-c. × epicasta, raised by Messrs. Veitch, which, however, has more yellow in the throat. The plant was obtained from Messrs. F. Sander & Co., who, it may be added, exhibited a plant at the R. H. S. meeting on December 15th, 1899, with the parentage recorded above.

SCHOMBURGKIA THOMSONIANA.

At the R. H. S. meeting held on July 2nd last, an Award of Merit was given to Schomburgkia Thomsoniana from the collection of Sir Trevor Lawrence, Bart., Burford, Dorking. It is a rare species, hitherto imperfectly known, and it may be interesting to bring together its history in the following note.

Schomburgkia Thomsoniana, was described by Reichenbach in 1887 (*Gard. Chron.*, 1887, ii., p. 38), from a plant which flowered in the collection of W. J. Thomson, Esq., St. Helens, Lancashire, in June of that year. It is also said to have been exhibited at the Royal Horticultural Society's provincial show at Liverpool in June of the previous year. On looking up the report I find that it was exhibited in a group of twelve exotic Orchids, and it is noted as "a Schomburgkia, with the growth of tibicinis, but with a spike about three feet long with a *dozen* flowers," the sepals and petals being pale yellow and the lip deep purple—"a beautiful thing" (*Gard. Chron.*, 1886, xxvi., p. 22). The latter raceme is said to have borne fifteen flowers, and one of these is preserved at Kew. Nothing whatever is stated respecting the origin of the plant, and its habitat remained unknown until 1888. In May of that year Mr. W. Fawcett, F.L.S., Director of Public Gardens and Plantations, Jamaica, visited the Cayman Islands, in the Caribbean Sea, about 200 miles west of Jamaica, and brought back dried and living specimens of a Schomburgkia, which were submitted to Kew for determination, and which were identified with S. Thomsoniana, Rchb. f. (*Kew Bull.*, 1888, p. 162). A further account of the species was given by Mr. Fawcett in a note in the *Jamaica Bulletin* for 1894 (p. 74). After reciting its previous history, the author observes:—

"Dr. Strachan visited the islands in 1892, and noted two varieties, of which only one grew in Cayman Brac. He has been good enough to contribute the following paragraphs:—

"'S. Thomsoniana var. albopurpurea. Flower larger, colour cream or white and purple, lip with throat deep purple, and tip but little recurved.

"'S. Thomsoniana var. minor. Flower smaller, colour canary-yellow and purple, lip without much purple in throat, and tip extremely reflexed.'

"'Var. minor was the only one I collected in Cayman Brac, but in Grand Cayman I found both varieties, and var. albopurpurea was in greater abundance than minor. In habit and general structure both varieties show no marked difference.'—**Henry Strachan, F.L.S.**

"Mr. Rolfe writes from Kew Gardens that the specimens sent by me to Kew from Grand Cayman and Cayman Brac are practically uniform in size—evidently var. minor. Reichenbach's original is distinctly larger, segments ¼ inch longer. This may represent the variety albopurpurea."

It may be added that no specimens were submitted which would have enabled the doubtful point to be determined. Also that according to a sketch sent for determination by Mr. A. S. Hitchcock, with notes of colour, the variety albopurpurea—presumably the type—flowered at the Manhattan Botanic Gardens, Kansas, in July, 1891, plants having been collected at Grand Cayman in the previous January.

It should also be added that the plant shown by Sir Trevor Lawrence appears to be the variety minor, which also flowered at Kew about the same time, aud was figured for the *Botanical Magazine*. Both had the smaller flowers with very undulate, bright canary yellow sepals and petals, and a purple lip, as described by Mr. Strachan. The variety albopurpurea agrees better with Reichenbach's original type. The Kew plant is one of those sent home by Mr. Fawcett, and has only now flowered for the first time. Sir Trevor's plant may also be out of the same batch.

R. A. ROLFE.

ORCHIDS IN SEASON.

A FINE flower of the handsome Sophrocattleya × Chamberlainii triumphans (Cattleya × Harrisoniana ♀ × Sophronitis grandiflora ♂) is sent from the collection of the Right Hon. J. Chamberlain, M.P., Highbury, Birmingham, by Mr. Mackay. The flower is much larger than that of the type, which was originally described in these pages in 1898 (p. 270), as it measures $3\frac{3}{4}$ inches from tip to tip of the petals. The colour of the sepals and petals is brilliant carmine-rose, or almost cerise, and the small, trilobed lip is yellow, with the upper half of the front lobe crimson-purple, and the side lobes margined with a rather lighter colour. The plant produced four flowers on two growths, and must have been a brilliant sight.

A flower of the pretty little Lælio-cattleya × præstans-bicolor is also sent, which, as Mr. Mackay remarks, is simply a form of L.-c. × Binoti. Whether the plant is from the same source as the one exhibited by Sir Trevor Lawrence, and noted on page 316, we do not know. The rounded side lobes are in this case nearly as long as the column, and the upper half of the lip very deep purple crimson, which colour extends to the base by a broad band along the centre of the disc. The sepals and petals are narrower than in L. pumila, and light rose-purple in colour.

Other handsome things sent are Cattleya × Mantinii nobilior, a beautiful raceme of five flowers, and Lælio-cattleya × Duke of York, the latter a richly coloured hybrid derived from L.-c. × elegans and Cattleya × Brymeriana, and thus containing four species in its ancestry.

A flower of the handsome Cattleya × Imperator is sent from the collection of Sir Frederick Wigan, Bart., Clare Lawn, East Sheen, by Mr. Young.

It is a natural hybrid between C. granulosa and C. labiata, and most resembles the former in shape—especially in the very deeply trilobed lip—but the latter in colour. The sepals and petals are light rose-purple, and the front lobe of the lip rich purple-crimson. A fine flower of the handsome Cattleya × Parthenia Prince of Wales (C. × fimbriata ♀ × C. Mossiæ ♂) is also sent. The flower is excellent in shape, and the colour white, with the front lobe of the lip suffused and veined with bright rose-purple. The lip is beautifully crisped right round to where the side lobes meet, and a tinge of pink also extends round the margin to the same point.

A leaf and flower of Paphiopedilum × Allanianum is sent by Mr. Bache, gardener to A. H. Bencke, Esq., of West Derby, Liverpool. It was purchased in 1895, from Messrs. John Cowan & Co., as a seedling from P. Spicerianum and P. Curtisii, when quite a small plant with only two pairs of leaves, but Mr. Bache says that now it is a good specimen in an eight nch pot, with eleven leads. Last year it had seven leads, four of which made double breaks, and this season all have flowered, and all have twin-flowered scapes, like the one sent. It is said to be a most robust grower, with a compact habit, and very attractive when in flower. The leaf sent is broad, rather obscurely tesselated, and the flower quite intermediate ia character.

Flowers of the beautiful Cattleya × Germania (C. granulosa Schofieldiana × Hardyana) are sent from the collection of Sir James Miller, Bart., Manderston, Duns, N.B., by Mr. Hamilton. It most resembles the former in shape, but the sepals and petals and side lobes of the lip are mauve-pink in colour, while the front lobe bears numerous radiating veins of darker colour. The handsome Lælia × Iona (L. tenebrosa × Dayana) is also sent. It is most like a considerably enlarged edition of the latter, with light purple sepals and petals, and the greater part of the lip very dark blackish purple with the characteristic raised keels of L. Dayana, though considerably reduced in size. Both were raised by Messrs. Charlesworth & Co.

A fine flower of the handsome Paphiopedilum × triumphans is sent from the collection of O. O. Wrigley, Esq., Bridge Hall, Bury, by Mr. Rogers. It is a hybrid from P. × nitens Sallieri and P. × œnanthum superbum, and the combination has proved an extremely fortunate one, having combined most of the size and shape of the former with the rich colours of the latter. It is a hybrid of the third generation, and an analysis of its parentage shows it to be composed of P. insigne, one-half, P. villosum, three-eights, and P. barbatum, one-eighth. The petals and lip are very rich, shining purple-brown, while the lip is heavily spotted with a darker colour, and suffused with rose near the white margin.

MILTONIA WARSCEWICZII XANTHINA.

A VERY pretty variety of Miltonia Warscewiczii has just flowered with Messrs. Charlesworth & Co., Heaton, Bradford, in which the usual brown and purple markings have completely vanished, leaving the flower a combination of lightest yellow and white. Two varieties of this kind have been described. The first appeared in the collection of C. Winn, Esq., Selly Hill, Birmingham, in 1881, and was described by Reichenbach as var. ætherea (*Gard. Chron.*, 1881, xv., p. 428) as "a curious variety whose colours are nearly lost—all blended in the slightest tinge. Sepals and petals of the lightest yellow with white tips; the lip white, area lightest yellow, bordered and based with lightest mauve-lilac; keels white, column white." The author added, "Nothing comparable to it had ever come before me," but this remark he subsequently modified, for about a year later, in alluding to it, he observed, "and yet I had a fine, wild-grown specimen which had been in my herbarium since 1879, collected by Mr. Falkenberg, as 'a variety with a white lip,' and kindly presented to me by Mr. Sander. It is now in flower at St. Albans, and proves to be quite identical with Mr. C. Winn's plant—a fact which I could not guess from Mr. Falkenberg's dried specimen" (*Gard. Chron.*, 1882, xvii., p. 732). The author afterwards added a variety xanthina, as "a delightful new variety, near var. ætherea, but with much deeper yellow sepals and petals, a light yellow lip, with narrow white border, and no purple at all. The column is pure white. It was kindly sent by Mr. William Lee, of Leatherhead" (*Gard. Chron.*, 1883, xx., p. 812). Messrs. Charlesworth's plant apparently agrees with the latter, and it forms a very striking contrast with the typical form, which is really one of the most beautiful species in cultivation, though rather rare, and not always one of the easiest to grow. The species was originally discovered by Poeppig, in 1830, near Cachiro, in Peru, and was again found by Warscewicz, who brought dried specimens to Europe. It was introduced to cultivation by Gustav Wallis, who sent specimens to Messrs. Linden, in 1868, one of which was exhibited at a meeting of the R. H. S. in October, 1869. Messrs. Veitch remark that more recently it was found by their collector Burke, growing on small trees and shrubs close to the ground, and on moss-covered stones, at 2000 to 3000 feet elevation, near the Rio Verde, in the province of Antioquia, and this should furnish a very good clue to its cultural requirements, for Cattleya Dowiana aurea grows in the same province. It is said to require more heat and more shade than either the Brazilian or Columbian species, except M. Roezlii, and a moderately shady position in the Cattleya house should prove suitable. It is one of the most beautiful species in the genus, and, when well grown, its panicled inflorescences of richly-coloured flowers form an imposing sight.

R. A. R.

LÆLIO-CATTLEYA × MARONÆ.

At the Royal Horticultural Society's meeting on September 24th last a very beautiful hybrid was exhibited by M. Chas. Maron, Brunoy, France, under the name of Lælio-cattleya × Madame Charles Maron, to which a First-class Certificate was awarded, as recorded at page 317 of our last issue. We have now much pleasure in giving a figure of the plant from a photograph kindly sent by M. Maron, but we have taken the liberty of amending the name to L.-c. × Maronæ, in accordance with the rule which requires the application of a single specific name for such plants. M. Maron

FIG. 48. LÆLIO-CATTLEYA × MARONÆ.

gives the parentage as Cattleya Warscewiczii imperialis × Lælia Digbyana, from which we infer that the latter was the pollen parent not the seed parent as previously recorded. He also describes the pseudobulbs as 9 inches high; the leaves 11 inches long, and shining green; the sepals and petals 4½ inches long, and bright rose in colour; and the lip a little over 3 inches broad, and bright rose with a large yellow throat. M. Maron sent two photographs, but we have preferred to reproduce the one showing the entire plant, for although the flowers are larger in the other they show

very little more detail. It is scarcely necessary to add more, as the photograph speaks for itself, and shows the way the characters of the two parents are combined better than a long description. It is a most beautiful plant, and we may congratulate M. Maron on his success. It will be interesting to see it again when the plant becomes stronger.

THE HISTORY OF ORCHID CULTIVATION.

(*Continued from page 232.*)

THE Mexican Lælias were now coming into prominence, for both L. albida and L. furfuracea were described and figured by Lindley in the *Botanical Register* for 1839. Both were discovered in the neighbourhood of Oaxaca by Count Karwinski. L. furfuracea (t. 26) was imported by Mr. Barker, of Birmingham, who sent it to Lindley in November, 1838, and it is said to be "probably not uncommon in collections, large quantities having been received by various persons from Mexico, especially by the Horticultural Society, who have distributed it among their Fellows." L. albida (t. 54) was sent from the envirous of Oaxaca, by Messrs. Sadler, of that place, to Mr. Bateman, with whom it shortly afterwards flowered, and also with T. Harris, Esq., of Kingsbury. Lindley remarked that its flowers were as fragrant as a bed of primroses. Plants were also sent to the Horticultural Society by Hartweg, together with "not fewer than 140 species" of Mexican Orchids. Lælia autumnalis (t. 27) was said to be "now not uncommon in gardens," a considerable number of it having been given away among the Fellows of the Horticultural Society. Its culture seems to have been very well understood, for Lindley remarked:—"In the garden of the Horticultural Society its cultivation is found extremely simple. When plants are received they are tied to a block of wood, and kept perfectly dry until they begin to send out roots and manifest other signs of growth. They are then freely syringed two or three times a day, and this practice is continued until the growing season is past. They are then removed to a cooler house with a drier atmosphere, in which they are allowed to winter, and when this season is over the above treatment is again renewed."

The event of the year, perhaps, was the introduction of another Odontoglossum into European gardens. O. Rossii flowered in the collection of G. Barker, Esq., of Birmingham, and was figured in the *Botanical Register* (t. 48), when Lindley remarked:—"A charming plant, sent to Mr. Barker from Mexico by his collector, Mr. Ross, after whom it is named. The bright white lip, lying as it were in the centre of a rich green, yellow, and blue star of three points, produces a peculiarly beautiful and unusual appearance." The cultural note states:—"It requires to be cultivated in a warm, damp stove, where it may either be potted in the usual way, or, which

is preferable, suspended from the roof upon a block of wood." The result of such advice must have been disastrous.

Another striking introduction was the beautiful Dendrobium formosum, which had long been known to science. Lindley observed (*l.c.*, t. 64):—"This magnificent species flowered at Chatsworth in May, 1838, and the drawing on the opposite page was then made from a specimen given me by His Grace the Duke of Devonshire. As a white-flowered epiphyte, it is almost unrivalled among Asiatic Orchidaceæ, the Phalænopsis amabilis being the only one that can enter into comparison with it."

Dendrobium Jenkinsii was also described and figured for the first time (t. 37), Lindley remarking:—"This pretty plant has been sent by Dr. Wallich to many persons in this country, and is now by no means uncommon. The accompanying drawing was made in September, 1838, from a plant in the possession of Messrs. Loddiges, and I have since received it from other places."

In the Miscellaneous Notices in the same volume, about eighty Orchids of various kinds were described, of which over half were new, and several of these are noteworthy. Lælia majalis (p. 35), the *Flor de Mayo* of the natives of Mexico, was received by the Horticultural Society from Hartweg, who found it growing on oak trees at 8000 feet elevation on the mountains near Leon, "where it sometimes freezes." Many plants are said to have been given away, but, added Lindley, "it proves exceedingly difficult of cultivation." The author overlooked its identity with his earlier L. grandiflora. Lælia flava (p. 88) flowered in the collection of Sir Charles Lemon, at Carclew, in the autumn of 1839. It was then thought to have come from Mexico, but we now know it to be Brazilian. Cattleya superba (p. 36) was sent by Mr. Schomburgk, apparently as a single plant, to Messrs. Loddiges, but whether it flowered with them is not stated. Odontoglossum Clowesii (p. 93) will perhaps be recognized as the now well-known Miltonia Clowesii. Lindley described it as "a very handsome Orchidaceous plant, for which I am indebted to the Rev. John Clowes, of Broughton, a most zealous and successful horticulturist, who received it from the Organ Mountains of Brazil a few years since." The remarkable Huntleya violacea (p. 19)—now referred to Bollea—flowered with Messrs. Loddiges, who had received it from Mr. Schomburgk. Dendrobium Paxtoni (p. 43) "was found at Pundua, at the foot of the Khoseea Khasia hills of India, by Mr. John Gibson, at that time employed as collector to His Grace the Duke of Devonshire, at whose request it was named after Mr. Paxton." It was sent to Lindley from Chatsworth in April 1839.

Lastly may be selected for notice, Aganisia pulchella (p. 45), a Guiana plant which flowered with Messrs. Loddiges, and Quekettia microscopica, a Brazilian plant from the same collection, each of which represented a new

genus. The latter was described by Lindley as only a few inches high, and having "no attractions for the vulgar eye," yet was one of the most interesting known to him if examined microscopically.

The corresponding volume of the *Botanical Magazine* (completed April, 1840) contains figures of twenty-two Orchids, eight of which were new, and is further interesting as containing a figure of Cattleya citrina (t. 3742) which now appeared in cultivation for the first time. Sir William Hooker remarked :—"Plants of this very fine and singular Cattleya were sent by Robert Smith, Esq., of Oaxaca, Mexico, in 1838, to the noble collection at Woburn Abbey, where they blossomed in April, 1839. The bulbs and foliage are remarkable for their very glaucous or sea-green hue ; and the fine flower, when seen in such a manner that the labellum is not brought into view, has, at first sight, so very much the appearance, not only in regard to form, but in size and colour, of the wild tulip of our country (Tulipa sylvestris), that we were for a moment deceived by it. The flowers are scentless. The plant is of easy growth, and is undoubtedly a most valuable addition to our ornamental stove plants. It does not appear to have been hitherto known to European Botanists, either in a living or dried state; but in Mexico its beauty seems to have attracted the attention of the natives, and it has, according to Hernandez, received a vernacular name which it would be difficult for us to pronounce"—"Corticoatzontecoxochitl."

Catasetum Russellianum (t. 3777) and Epidendrum Parkinsonianum (t. 3778) may be mentioned as two of the more striking novelties. Both flowered in the celebrated collection of the Duke of Bedford, and Sir William Hooker remarked that they were the last Orchideous plants that were communicated from Woburn Abbey during the life of its late noble possessor, and were sent off on the day that His Grace was seized with his fatal illness. The former was dedicated to the deceased nobleman, who was described as a magnificent patron of science and art, a devoted admirer of botany and horticulture, and the possessor of an almost unrivalled collection of Orchids and other plants." The author concluded :—"May his name long be perpetuated among the votaries of that science which he so much delighted to honour in the present new and remarkable species of Catasetum: a species indeed so distinct, that it can hardly be assimilated with any other yet known to us." It was sent by Mr. Skinner from Guatemala in 1838. Epidendrum Parkinsonianum was dedicated to John Parkinson, Esq., F.L.S., "a gentleman who spared no pains, while holding the office of H. B. M. Consul General at Mexico, to enrich our gardens and herbaria with the choicest vegetable productions of that interesting region." Bletia Parkinsoni (t. 3736), which also flowered at Woburn in 1839, was dedicated to Mr. Parkinson, as was also the volume of the *Botanical Magazine* of which we are speaking. Epidendrum cepiforme (t. 3765) and E. densiflorum

(t. 3791), may also be mentioned as novelties which were sent to Woburn by Mr. Parkinson.

Brassavola cuspidata (t. 3722), was a remarkable novelty "from the collection of John Moss, Esq., of Otterspool, Liverpool, which, partly owing to that gentleman's South American correspondents and connections, and partly to the skill of his gardener, Mr. James, bids fair to rival some of the many collections of Orchideous plants of which the county may well be proud. The plant was sent from Trinidad with about fifty others of the same family."

Last, but not least, among the novelties must be mentioned Oncidium concolor (t. 3752), "an extremely beautiful plant, an inhabitant of the Organ Mountains of Brazil, where it was found by Mr. Gardner, in 1837, and whence it was sent by him to the Woburn collection."

Among the more interesting novelties figured in the *Botanical Register* for 1841 may be mentioned the pretty little Cattleya Aclandiæ (t. 48), of which Lindley remarked:—"I have only seen a single flower, which I owe to the kindness of Lady Acland of Killerton, by whom the drawing, from which the annexed figure was prepared, was also supplied. It was received from Brazil in October, 1839, having been discovered by Lieut. James, of H.M.S. *Spey*, and flowered at Killerton in the month of July, 1840, under the able management of Mr. Craggs, Sir Thomas Acland's gardener. Odontoglossum maculatum (t. 30) was "another rarity from the rich storehouse of Mr. Barker, who imported it from Mexico." The brilliant Epidendrum vitellinum (t. 35) also appeared in cultivation for the first time, in Mr. Barker's collection. It was already known from dried specimens, which, however, Lindley remarked, failed to convey a true idea of the natural appearance of this species when in health and flowering under favourable circumstances. Lælia rubescens (t. 41) also flowered with Mr. Barker, who purchased it at Mr. Knight's Nursery, in the King's Road, Chelsea.

The introduction of Brassavola glauca has already been mentioned, and the plant being figured by Lindley in the work under notice (t. 44) furnishes an opportunity to mention a curious circumstance in connection with its introduction which is not without significance in connection with the history of Orchid cultivation. It was first known to Lindley by plants sent to the Horticultural Society by Hartweg, but afterwards made its appearance amongst a huge assemblage of Mexican Orchids which had been sent to England (on speculation) by a Frenchman named Deschamps. The note is from the pen of Mr. Bateman. "This importation was quite unique in its way, and formed a sort of epoch in the history of the *Orchido-mania*. A vessel came into port freighted, almost exclusively, with Epiphytes and Cacti, and such was their abundance, that it was found

necessary to engage an extensive suite of apartments for their accommodation, in Hungerford Market! The plan pursued by M. Deschamps was to parcel out his plants in small collections of about twenty species, for which, in the first place, he asked and obtained very high prices; but the London market being at length exhausted, similar collections were distributed through the provinces, and offered at greatly reduced rates. The author himself purchased, in a country town, a set of at least twenty kinds for a sum which, in the metropolis, he had in vain tendered for only two! In case of any future inundation of Orchidaceæ, this little fact should be borne in mind."

The Miscellaneous Notices in this work again contained descriptions of numerous Orchids, of which only a few of the more important ones can be mentioned. Sophronitis violacea (p. 18), is described as "a pretty little epiphyte with violet flowers, for which I am indebted to Mrs. Cannon, of Stratford Green, in whose hothouse it flowered in the beginning of February." Oncidium Insleayi (p. 19), now referred to Odontoglossum, is noted as "a native of Mexico, whence it was imported by George Barker, Esq., of Birmingham, who has named it after Mr. Insleay, his gardener." Cycnoches maculatum (p. 10) also flowered in Mr. Barker's collection, and Lindley remarked that a figure would be published in the *Sertum Orchidaceum*, the page of the *Botanical Register* being "too small to do justice to so noble a flower." Mormodes buccinator (p. 10) flowered in the collection of J. Willmore, Esq., of Oldford, near Birmingham. Of Brassia verrucosa (p. 36) we read that "at the last meeting of the Horticultural Society in Regent Street, this beautiful plant was exhibited by Messrs. Rollissons, of Tooting," and was intended for one of the plates in Mr. Bateman's *Orchidaceæ of Mexico and Guatemala*. Stanhopea Martiana (p. 50) was discovered by Baron Karwinski in Mexico" in 1827, and sent by him to Knypersley, where it flowered for the first time "in May of the present year." Dendrochilum filiforme (p. 52) was sent from Manila by Cuming, and flowered with Mr. Bateman. It is noted as the first living specimen of the genus seen in Europe. Stanhopea graveolens (p. 59) flowered in the collection of the Hon. and Rev. W. Herbert, who is said to have imported it from Peru. Chysis lævis and C. bractescens (p. 61) were two new species of the genus which had appeared in Mr. Barker's collection. Maxillaria Skinneri (pp. 48, 68)—now Lycaste—was introduced by Mr. Skinner, and first flowered with Sir Charles Lemon at Penrhyn. Angræcum bilobum (p. 69) was introduced from Cape Coast Castle, and flowered with Messrs. Loddiges. Oncidium incurvum (p. 75) flowered with Mr. Barker, and afterwards with Messrs. Lee & Co., of Hammersmith. Cœlogyne Cumingii and Catasetum saccatum (p. 76), also C. cornutum and C. callosum (p. 77) all flowered with

Messrs. Loddiges. Lastly, at page 71, Lindley notices an interesting case of the appearance of Monachanthus-like flowers on a plant of Catasetum deltoideum in the collection of Mr. Dunsford, though the cause of this supposed sporting was then a profound mystery.

This volume also contains an interesting account of the production of Vanilla in England (p. 66). Lindley remarked that most horticulturists would be aware that Prof. Charles Morren had procured the aromatic fruit of Vanilla in abundance, by artificial fertilisation, at Liege, but he was not aware that anyone in England had met with like success until Mr. Henderson, the skilful gardener at Lord Fitzwilliam's seat, at Milton, accomplished the object. In April last Mr. Henderson sent him flowers, accompanied by the ripe fruit, which appeared to be quite as fragrant as those imported from Mexico, and they proved as fit for the purpose of flavouring ices and creams. Mr. Henderson stated his plant had produced flowers for several years, but no fruit, until he saw Morren's paper giving directions for artificial fertilisation, and by following these instructions he succeeded in getting a number of fruit to set. Morren's paper, "On the production of Vanilla in Europe," was read before the British Association at Newcastle, and was published in the *Annals of Natural History* for March 1839.

The corresponding volume of the *Botanical Magazine* (completed June, 1841) contained figures of twenty Orchids, though most of them were already known, but under t. 3804 (Lælia anceps) is a very interesting account of the method of treatment then practised by Donald Beaton, gardener to T. Harris, Esq., of Kingsbury, the owner of "extensive collections of Orchidaceæ and Cacteæ." Having received, about the end of September, a large importation of Mexican Orchids from Mr. Galeotti who had gathered them at an elevation of 7500 to 9000 feet, he laid them on shelves in the seed room, with a thin layer of damp moss under them, and by the middle of December they had imbibed sufficient moisture to swell them to their natural size, after which some were removed to the cool end of the Orchid house, while others were left in the seed room, and these did better than those placed in heat, particularly Cattleya citrina. When they began to grow in March and April, they were removed "into a brick heat"—whatever that may mean—and now they were said to "have the advance of those which were in heat during the winter," and it was intended, as soon as the leaves were fully formed, to "remove them to ripen their growth to the warmest end of the greenhouse." In a subsequent letter Mr. Beaton alluded to a fine collection just received from Mr. Skinner, of Guatemala, adding, "I have ample proof that these. and many others, will not do so well if they are subjected to a heat above 50° or 55° in winter. Nothing can be more difficult than to bring some

of the plants in my list to any state of healthy growth in our excessively-heated Orchideous house."

Thus was Orchid culture gradually progressing, and in this connection it is interesting to recall a much fuller account of Beaton and his methods, which appeared in our first volume (pp. 138-142).

(To be continued).

A DOUBLE ODONTOGLOSSUM PESCATOREI.

A REMARKABLE double flower of Odontoglossum Pescatorei is sent from the collection of T. Baxter, Esq., Oakfield, Morecambe, by Mr. Roberts. The doubling in this case does not proceed from the fusion of two flowers and consequent increase in the number of parts, but from the breaking up of the column into supernumerary petaloid segments, as in the double form of Epidendrum vitellinum, which appeared a few years ago. The sepals and petals are quite normal, and the colour white; the former with one or two bright purple blotches about the centre, and the latter unspotted. The lip is also normal in shape, being very broadly pandurate, but one side of the crest is less developed than the other, and immediately in front of the crest is a small, bright purple blotch. It is in the column that the remarkable character is seen, and this organ is broken up into six petaloid appendages, and three more or less clavate bodies, the former apparently representing the six stamens, and the latter the three pistils. The staminodia appendages are pure white, more or less laterally curved, and each bears two or three small spots, and the three pistillate appendages are light green. These nine appendages are in three whorls of three each, the outer whorl being opposite to the sepals, the next whorl opposite to the petals and the lip, and the pistillate whorl again opposite to the outer whorl, forming a nearly regular double flower. It may be noted that the two staminodial appendages opposite to the normal petals (homologically the column-wings) are united for a short distance beyond the others, and bear between them one of the pistillate appendages which is homologically the rostellum. If one could imagine a lily with its six stamens transformed into petals of about half the usual size, and united for a short distance at the base into a central column, from which arose the three stigmas, which were dwarfed to about a sixth of their length, one would have a very fair idea of this remarkable flower. It illustrates the typical monocotyledonous structure, and emphasizes the profound modifications which have taken place in a typical Orchid flower in a way not often seen, even among abnormal Orchids. It will be interesting to see if it agrees with the Epidendrum above named in having the peculiarity fixed or permanent. If so, it will be the first truly double Odontoglossum known.

R. A. ROLFE.

ODONTOGLOSSUM MACULATUM THOMPSONIANUM.

The accompanying illustration represents a flower of the remarkable Odontoglossum maculatum Thompsonianum, from the collection of W. Thompson, Esq., Walton Grange, Stone, to which a First-class Certificate was awarded by the Royal Horticultural Society at its meeting held at Chiswick on July 16th last. It was recorded in our report at page 252 as "an exceptionally large and handsome form, far superior to anything we have yet seen. The inflorescence bore eight flowers, which measured three inches in diameter across the petals, and the segments were very broad and richly coloured." The illustration, which is from a photograph taken by

FIG. 49. ODONTOGLOSSUM MACULATUM THOMPSONIANUM.

Mr. H. J. Chapman, and kindly sent to us, gives a graphic idea of its remarkable features, and we may add that in all other respects it conforms to the normal type of the species. We do not know anything of its previous history. The species is one of the least variable in the genus, both in size and colour, and we may add that it is one of the most easily grown of the Mexican kinds.

THE HYBRIDIST.

LÆLIO-CATTLEYA × CLYTIE.—This is a charming little hybrid sent from the collection of Sir Frederick Wigan, Bart., Clare Lawn, East Sheen, by Mr. Young. The record of parentage is Cattleya Dowiana aurea crossed with Lælia × Gravesiæ, and as the latter parent was derived from L. crispa and L. pumila præstans, it will be seen that three species are concerned in its parentage. In shape the novelty much resembles L.-c. × Ingramii, but is far lighter coloured. The sepals and petals are delicate blush-pink, and the lip bright rose-pink, with lighter radiating veins, whose origin may be traced to the influence of C. Dowiana. The flower is of very good shape, and the lip ample, and lighter in colour than in many of the Dowiana hybrids.

LÆLIO-CATTLEYA × TRUFFAUTIANA.—This is a new and handsome hybrid, raised by M. Ch. Maron, of Brunoy, and exhibited by him at a meeting of the Société Nationale d'Horticulture de France on October 10th. Its parents are Lælia tenebrosa and Cattleya Dowiana aurea. The sepals are brown and yellow and the petals a little darker, while the lip is bright velvet crimson, with some yellow lines at the bottom of the throat.

The following five new Lælio-cattleyas have been exhibited at meetings of the Société Nationale d'Horticulture de France during the present year. Some others have been exhibited as new, but, according to our records, hybrids of the same parentage have already been recorded :—

LÆLIO-CATTLEYA × LABIATO-ANCEPS.—A hybrid derived from Lælia anceps crossed with the pollen of C. labiata. Exhibited by M. Ch. Maron on January 10th, 1901, and gained a Second-class Certificate of Merit.—*Journ. Soc. Nat. Hort. Fr.*, 1901, p. 29.

LÆLIO-CATTLEYA × SENARTI.—A hybrid derived from L.-c. × elegans × L.-c. × callistoglossa. Exhibited by M. Ch. Maron on February 28th, 1901.—*l.c.*, p. 211.

LÆLIO-CATTLEYA × ANTIGONE.—A hybrid derived from Lælia purpurata × Cattleya Schilleriana. Exhibited by M. Peeters on February 28th, 1901. —*l.c.*, p. 212.

LÆLIO-CATTLEYA × PURPURATO-ACLANDIÆ.—A hybrid derived from the two species indicated by the name. Exhibited by Messrs. Duval et fils on August 8th, 1901.—*l.c.*, p. 842.

LÆLIO-CATTLEYA × LA FRESNAIE.—A hybrid from Cattleya Leopoldi crosssed with the pollen of L.-c. × elegans. Exhibited by M. Octave Doin on August 28th, 1901, and gained a Second-class Certificate of Merit.—*l.c.*, p. 907.

CATTLEYA × LADY INGRAM, MARON'S VARIETY.—A handsome hybrid raised from C. Eldorado × C. Dowiana aurea, by M. Ch. Maron, Brunoy, France, and exhibited at the R. H. S. meeting on October 15th, when it

received an Award of Merit. The flower bears some resemblance to C. Dowiana in shape, and has some light yellow veining on the side lobes of the lip, but in other respects it most resembles the other parent. The sepals and petals are blush pink, tinged with light rose, and the front lobe of the lip purple-crimson, with the throat rich orange. The flower painted by Miss Roberts has been kindly sent by Mr. Chapman.

NEW ORCHIDS.

A RECENT issue of the *Kew Bulletin* (July-Sept., 1901) contains a twenty-fifth decade of New Orchids, described by Mr. Rolfe, of which the following is a brief summary:—

MASDEVALLIA VENOSA (p. 146).—A Colombian species of the section Saccolabiatæ, allied to M. pusilla, Rolfe, introduced by Messrs. F. Sander & Co., St. Albans, with whom it flowered in June, 1899. The perianth is straw-yellow, densely spotted, and more or less suffused at the base with dull purple.

DENDROBIUM CAPITULIFLORUM (p. 146).—A native of New Guinea, introduced by Messrs. F. Sander & Co., who flowered it in March, 1899. It belongs to the section Pedilonum, and is allied to D. purpureum, Roxb. The flowers are borne in dense axillary heads and the colour is greenish white, with the column and disc of the lip bright green.

DENDROBIUM PUNICEUM (p. 146).—Another species of the Pedilonum group, introduced by Messrs. F. Sander & Co., with whom it flowered in October, 1898. It came from New Guinea with D. atroviolaceum, Rolfe, and is allied to D. rutriferum, Rchb. f. The flowers are borne in axillary racemes, and, together with their pedicels, are light rose-pink, with light yellow tips to the sepals and petals.

DENDROBIUM QUINARIUM (p. 147).—Introduced from New Guinea with D. Johnsoniæ, F. Muell, by Messrs. Hugh Low & Co., and flowered in their nursery in July, 1898. It is allied to D. tetragonum, Lindl., and has light yellow flowers, with several light brown nerves in front of the lip.

DENDROBIUM INÆQUALE (p. 147).—Introduced from New Guinea by Messrs. F. Sander & Co., who flowered it in March, 1899. It is noted as an anomalous species, apparently most allied to D. euphlebium, Rchb. f., though very different in the shape of the lip. The flowers are white, veined on the front of the lip with purple, and are apparently very fugacious. They are produced singly from cavities at alternate nodes on the two adjacent exterior faces of the pseudobulbs, a character found in all the ten pseudobulbs on the plant (*Bot. Mag.*, t. 7745).

CIRRHOPETALUM APPENDICULATUM (p. 148).—This is the C. ornatissimum figured by King and Pantling (*Ann. R. Bot. Gard. Calc.*, viii., p. 95, t. 133), but not Reichenbach's plant of that name, with which it has been

confused (*Hook f. Fl. Brit. Ind.*, v., p. 773). It differs, among other characters, in having solitary flowers, in which respect it is allied to C. merguense, Rchb. f. It is a native of warm valleys in Sikkim, and flowered in the collection of H. J. Elwes, Esq., Colesbourne, Gloucestershire, in October, 1896. The flower is large, more or less veined and speckled with reddish purple on a pale green ground, and the sepals and petals bear a number of purple, leaf-like appendages attached by a filiform base.

PANISEA TRICALLOSA (p. 148).—A native of Assam, which flowered in the Royal Botanic Gardens, Glasnevin, in April, 1896. The flowers are pale, translucent, yellowish green, with three yellow calli on the disc, tipped with brown.

CATASETUM QUADRIDENS (p. 149).—Purchased at the sale of the Hon. Walter Rothschild's collection, and flowered at Kew in December, 1898. The habitat is unknown. It is allied to C. cornutum, Lindl., and is remarkable for the presence of a pair of short, acute teeth, situated at the lower angles of the abortive stigma, in addition to the usual pair of antennæ. The flowers are light green, blotched all over with dark brown.

ORNITHOCEPHALUS MULTIFLORUS (p. 149). — A Brazilian species, imported by M. Binot, which flowered at Kew in June, 1898. It is noted as a very graceful and floriferous species, having the flowers white, with the exception of the incurved apex of the crest, which is bright green. In habit it is remarkably distinct, differing from all others except O. grandiflorus, Lindl., in having flat, not ensiform leaves.

AERANTHES CAUDATA (p. 149).—A distinct and remarkable Madagascar species which flowered at the Royal Botanic Gardens, Glasnevin, in August, 1899. It is allied to A. grandiflora, Lindl., but has a very slender scape and smaller flowers, with the sepals and petals long caudate, and the spur cylindrical. The sepals and petals are pale, pellucid green, and the lip greenish white.

DENDROBIUM BRYMERIANUM AS A PARENT.

SHOULD the efforts which are being made to induce Dendrobium Brymerianum to impart, through hybridizing, its beautiful lip to other members of the Dendrobium family prove successful, then we may reasonably expect to obtain flowers equally beautiful, in their class, to those Lælia and Lælio-cattleya hybrids which are the result of using Lælia Digbyana as a parent. So far as I am aware, no flower having D. Brymerianum for one of its parents has yet been seen, although plants of D. Brymerianum × D. nobile nobilius and D. Dalhousianum × D. Brymerianum are said to be in existence. These it is sincerely hoped will, when they flower, fully come up to their owners' expectations; but knowing the great difficulty which exists in

persuading D. Brymerianum to act as a parent, one cannot feel quite certain as to the ultimate result.

The object of this letter is to endeavour to ascertain if the difficulty cannot be overcome. Whilst it is not to be expected that anyone, who, by labour, expense, and thought, has solved this riddle of Nature, will publish the methods adopted until he has reaped his reward, there must be many who are making experiments, either without success, or only partial success, whose experiences would be very beneficial one to the other.

The season before last, about fifty crosses were made in my houses, under as many different conditions as seemed likely to produce the desired result, but the plants declined to assist, either as seed or pollen parents. In some few instances pods commenced to form, but in no case did they remain upon the plants for longer than seven weeks. These partial successes promise a possible complete success, and will be tried again. Last season about 150 crosses were made; this time many plants being chosen, more resembling D. Brymerianum in growth, and habitat. The previous season's experience was repeated, except in the case of a Dendrobium of the nobile section, and two of those more nearly resembling D. Brymerianum.

The pod on the D. nobile set well, and swelled slowly for five months, when it appeared to ripen; and split. Upon taking the pod off and examining it, no trace of seed, or even chaff, was to be found. The other two pods promise well, and better results are hoped for, though by no means confidently.

Some time since our scientists gave us a reason why it is difficult to make Lælia Digbyana a seed parent. Will they help us with a theory as to the probable cause of the trouble with D. Brymerianum, so that our efforts may be continued in the light of their knowledge? The exchange of opinions, and records of failures, or partial successes, of any who are trying to raise what would probably prove a most beautiful hybrid, would be an encouragement to persevere.

RICHD. G. THWAITES.

Streatham.

We cannot suggest any reason for the difficulty, unless it be that D. Brymerianum is too distinct from the species which have been crossed with it. The yellow flowered section seems difficult to hybridise successfully. In 1893, Mr. White, of Burford, wrote in these pages (p. 17): "For many years past frequent attempts have been made to obtain seed from such species as D. moschatum, D. Calceolus, D. fimbriatum and its variety oculatum, D. clavatum, D. chrysotoxum, &c., but without success. Last year over a hundred flowers of D. fimbriatum alone were hybridised, but not a single seed-pod was obtained." We should be glad to know the experience of others.—ED.]

CALENDAR OF OPERATIONS FOR NOVEMBER.

By H. A. BURBERRY, Orchid Specialist, King's Heath, Birmingham.

CAREFUL stoking must now be the order. All departments will now require warmth from the hot-water pipes, and the aim should be to have a sufficiency of heat regularly, and no more, for too much is nearly as injurious as too little.

WATERING.—A few words on this important subject may here be useful, for it is work which is rather perplexing to beginners at this season. Of course all, or nearly all, Orchids rest during the winter months, and therefore much less water is required, but when rest is implied it does not necessarily mean that absolute drought should be resorted to in all cases. It is easy to give either too much or too little water during the winter, and it is not easy to say when or how often to water, as the conditions of the weather and the circumstances of each plant vary so much. The golden rule should be to give enough to keep the plant plump. Shrivelling of the pseudobulbs may be right in some few instances, but for the majority it is bad practice—I mean excessive shrivelling. Of course, when a group of plants is being kept dry, because inactive, slight shrivelling may occasionally take place, but there is very little, if any, harm in that.

In order to make the subject of winter watering as plain and easy as possible, let us divide our Orchids into three classes. The first is the deciduous ones, amongst which will be found the following:—Thunias, Mormodes, Catasetums, Cycnoches, Chysis, Barkerias, Anguloas, Cyrtopodiums, the deciduous Calanthes, some Dendrobiums, and a few others, particularly those having large and succulent pseudobulbs. These are all capable of withstanding great drought from now onward until the new growths appear some time in the spring; they should therefore occupy the dryest and lightest position in their respective houses, and practically receive no water throughout the winter other than the moisture the atmosphere will convey to them. Of course, if they should appear to be shrivelling excessively, a slight surface watering may be given, but not on any account should the compost be saturated. The second class will include the other pseudobulbous species, such as Cattleyas and Lælias, Odontoglossums, Oncidiums, Cœlogynes, Epidendrums, Lycastes, Maxillarias, Trichopilias, Stanhopeas, and similar kinds. For these I also recommend a very dry winter treatment, but they will not withstand so much hard drying as the previously mentioned kinds. The third class includes those species which have no such marked season of inactivity. Many of these have pseudobulbs, such as *Zygopetalums*, Miltonias, Cymbidiums, Cochliodas, and various individuals from other genera which may be growing quite naturally, such as Lælia purpurata, Odontoglossum crispum, &c., together with a great

number of those having no pseudobulbs, such as Cypripediums, Saccolabiums, Pescatoreas, Sobralias, Vandas, Phalænopses, Phaiuses, Masdevallias, Angræcums, and Aërides. None of these should be allowed to become too dry at the root, and on the other hand they should not be too freely watered —just enough only to keep them plump and in a healthy condition is needed throughout the winter, and for this a surprisingly small amount will suffice.

TEMPERATURES.—For the proper winter temperatures a few degrees lower than those mentioned last month may be allowed in very severe weather, but for all ordinary weather it will be best to adhere to those previously stated. I may here again mention the great advantage of using some rough outside covering for the glass during severe weather, as a means of maintaining the required degree of warmth with less fire heat. When this is done the conditions are generally more favourable to the plants, besides the additional advantage of a reduced bill for fuel.

Pleione lagenaria and P. maculata, having passed out of flower, should now be re-panned in fresh compost, kept moist, and given a position in intermediate temperature near the glass, where they will start gently to grow. Many growers pot annually, but this is not absolutely necessary if the compost appears to be in a fair state of preservation, when a fresh top-dressing will suffice.

Sophronitis grandiflora will soon be most effective. It is particularly fond of a comparatively shady and moist position, requiring only a short period of rest after blooming. It is best removed to intermediate temperature during winter.

Oncidium varicosum, another old favourite, is now blooming well. This, together with O. Forbesii and O. crispum, are best for a good hard rest during the winter months, in intermediate temperature, even at the expense of shrivelling somewhat.

Cattleya labiata and C. Bowringiana are now in their beauty, and most invaluable they both are for this season. A moderate rest is essential for both after blooming, with no root disturbance for repotting purposes until early spring. The same remarks also apply to the beautiful C. Dowiana. Do not keep these autumn-flowering Cattleyas in a damp position immediately after blooming, or the damp may affect them, and the newly formed pseudobulb and leaf be lost. Be careful to remove the old flower sheath so that no moisture may lodge there. Inattention to this may lead to decay at this point.

Odontoglossum grande is also now very fine. It has hitherto been found good practice to grow this species in a rather generous compost, such as mixing in a little good loam. By employing all leaf soil I find they do splendidly, and I fancy the loam is no longer really essential. They do best

in intermediate temperature during winter, and they must now have a moderate rest.

Phalænopses, having now completed their new leaves, should have much less water afforded them. Not that they should be rested, so to speak, like many of the pseudobulbous species, because they could not stand it: they must simply be kept drier, so that the foliage becomes more hardy, and consequently less liable to watery spots, which will appear if immatured and sappy during the winter. They will soon commence to push forth their flower spikes. If one part of the structure is hotter than another, this should always have the preference, but avoid a position where the outside air when admitted comes in direct contact with them. Neither do they derive any benefit from the sunshine striking them full, not even during the winter, and it is best therefore to avoid this.

A great number of Cypripediums are now out, making a good show by themselves, in fact I think better than when staged with more showy species, such as Cattleyas, &c. It is difficult now to enumerate the varieties of Cypripediums, so very numerous are they. It is also difficult to see a great amount of difference between some of the named hybrids; still there is a difference, but in many instances it is noticeable only to the connoisseur. Cypripediums are all very simply cultivated, the majority preferring intermediate temperature. I am generally averse to autumn or winter potting of Orchids, still these may be done without unduly suffering, selecting them for this purpose soon after the flowering season is over. I now use leaf-mould for these purely, and find it answers admirably. I always give a good surface of sphagnum moss—say about half an inch. This preserves the leaves, keeping them the longer in an unrotten condition. Use only about one inch of small crocks for drainage.

I think it a great mistake to grow the beautiful Odontoglossum citrosmum in a cool house. Far better give it warmth, even if it is the East Indian House. The pseudobulbs should now be completed, and the plant commencing its period of rest, which must be very severe to cause it to bloom profusely. This is one of the exceptions to the rule of not giving too severe a rest.

Maxillaria grandiflora and M. venusta are now sending up their flowers. They are beautiful old species, and when strong and well grown produce quite a quantity of flowers. They can be grown well intermediate, but one gentleman that I know grows the best plants I have ever seen in his Cool Odontoglossum House, on the centre stage, where they simply thrive. He repots very rarely indeed, declaring that Orchids may be repotted to death, which, I think, is true in a sense, and which is a notion I have always supported—by deprecating unnecessary root disturbance.

PAPHIOPEDILUM × MAHLERÆ.

In August last a fine, three-flowered spike of a hybrid between Paphiopedilum Lawrenceanum ♀ and P. Rothschildianum ♂ was sent from the collection of Reginald Young, Esq., of Sefton Park, Liverpool (gr. Mr. Poyntz). Mr. Young writes that the cross was made in May, 1892, the seed sown in the following December, the seedlings first detected in June, 1893, and the first flowers expanded in July of the present year. There is a difference of opinion as to the correct name of this hybrid, as it has been recorded under several specific names, but we believe that P. × Mahleræ is the earliest. Under this name it was described in these pages in 1898, on the occasion of its flowering in the collection of R. H. Measures, Esq., of Streatham. It may be interesting to give the different names under which it has been recorded in our pages in chronological sequence :—

P. × Mahleræ,	*Orch. Rev.*,	1898,	p. 271.
P. × Wiertzianum,	,, ,,	,,	p. 335.
C. × Garbari,	,, ,,	1899,	pp. 249, 254.
C × tixallense,	,, ,,	1900,	p. 112.
C. × Rothschildiano-Lawrenceanum,	,, ,,	,,	p. 251.

As to P. × Wiertzianum we have a doubt as to whether it really belongs here, for a glance at the figure (*Lindenia*, t. 644) suggests P. × selligerum rather than P. Rothschildianum as the second parent, while one record gives P. barbatum. In any case we consider P. × Mahleræ to be the correct name of this hybrid. It is probable that a certain amount of variation exists between the different individuals known, but how far they are distinct enough to warrant the addition of varietal names could best be determined if they could be compared side by side. All, however, are very handsome, and of very robust constitution.

HYBRID MILTONIAS.

READING through Mr. Rolfe's very interesting article on Hybrid Miltonias in the last issue of the ORCHID REVIEW, I notice that there is some doubt about the history of the plant named M. × Peetersiana var. concolor. It flowered with us in September, 1886, and was sent to Prof. Reichenbach, who named and described it as above, and in the following month a plant was sold by Mr. Bull to Mr. Tautz. This is sufficient to establish the identity of the plant with the one noted by Mr. Gower in 1888 as M. × Peetersiana, which is presumably identical with the one noted in the collection of R. I. Measures, Esq., in 1887, but I am not sure whether Mr. Measures also had a plant.

JAMES MARCHAM.

LÆLIA RUPESTRIS.

A CORRESPONDENT sends a catalogue record of a hybrid Lælio-cattleya, said to have been derived from Cattleya Trianæ × Lælia rupestris, and asks what the latter species is, as the name does not appear in either Veitch's or Williams' Orchid Manuals.

Lælia rupestris was described by Lindley in 1842 (*Bot. Reg.*, xxviii., sub. t. 62), from dried specimens collected by Gardner in elevated rocky places in the Diamond district, Brazil. Gardner noted the flowers as "violaceous." In his *Travels in the Interior of Brazil* (ed. 2, p. 339), Gardener thus describes his discovery of it. Speaking of Lavrinha, situated on the southern extremity of the Sierra, in a hollow surrounded by rocky hills, he remarks:—"Here I again made numerous collections, among which were two fine Orchidaceous plants, both species of the beautiful genus Lælia, one of them bearing violet-coloured, and the other bright yellow flowers." These were respectively L. rupestris and L. flava. It seems probable that living plants were sent home, for a coloured drawing of the lip in Lindley's Herbarium, labelled, "Mr. J. T. Mackay, Trin. Coll., May 26th, 1845," affords evidence that the species was then in cultivation at Dublin. A living flower was also sent to Kew for determination in November, 1896, by Col. E. S. Berkeley labelled, "Lælia from South America." The species closely resembles L. flava in habit, but has the leaves and flower-scapes rather shorter than in that species. The expanded flowers measure $1\frac{1}{2}$ to $1\frac{3}{4}$ inches in diameter, and the colour is bright purple with the throat of the lip much paler in colour.

R. A. ROLFE.

OBITUARY.

WE regret to hear of the death of Mr. Thomas Rochford, of the Turnford Hall Nurseries, Cheshunt, Herts, which occurred at his residence on October 12th last. The deceased, who was in his 53rd year, had been suffering for some time from Bright's disease. Mr. Rochford had established a highly successful nursery business at Cheshunt, to which place he had moved in 1883, and some four or five years ago he took up the culture of Orchids, in which he was as successful as in his other undertaking. The magnificent group of Odontoglossums exhibited by him at the Drill Hall on April 23rd last, to which a Gold Medal was awarded, will be fresh in the minds of those of our readers who were present on that occasion. Mr. Rochford's death leaves a vacancy on the Royal Horticultural Society's Orchid Committee, of which body he had for some time been a member. The funeral took place on October 17th, at Cheshunt Cemetery.

SOCIETIES.

ROYAL HORTICULTURAL.

In the report of the meeting of the Scientific Committee, held on September 22nd, the following references to Orchids occur :—

Cattleya Gaskelliana.—Mr. Crawshay exhibited, from the collection of John S. Moss, Esq., a spray of three flowers, in all of which two sepals had yellow streaks occupying half their surface, thus slightly simulating the labellum.

Miltonia spectabilis.—He also showed a small imported plant of this species which had not been potted for eighteen months, but had sent out a flower from the terminal shoot.

Spots on Orchid Leaves.—Mr. Crawshay read several communications from Mr. Bidgwood on this subject : he has traced the spots to a fungus, of which photo-micrographic illustrations were shown ; but as his researches are not completed, a further communication is looked for. The fungus appears to be allied to Glæosporium.

A meeting of the Society was held at the Drill Hall, Buckingham Gate, Westminster, on October 15th, when there was a very fine display of Orchids, including several striking novelties.

There were present of the Orchid Committee : —H. Little, Esq., in the chair ; and Messrs. W. A. Bilney, T. W. Bond, H. J. Chapman, E. Hill, H. M. Pollett, J. W. Potter, F. A. Rehder, H. A. Tracy, W. H. White, W. H. Young, and J. O'Brien (Hon. Sec.).

Sir F. Wigan, Bart., Clare Lawn, East Sheen (gr. Mr. Young), was awarded a Silver Flora Medal for a nice group of well-grown plants, including Cattleya × Maroni, with eleven flowers, E. Eldorado alba, C. Dowiana aurea, C. labiata illuminata, C. Bowringiana Lady Wigan (a delicately-coloured variety), Lælio-cattleya × callistoglossa, Stanhopea Martiana, Miltonia Roezlii magnifica, with four flowers on a spike, Stenoglottis longifolia, Lælia pumila, Cypripedium × Allanianum, and Cœlogyne ocellata. An Award of Merit was given to Lælio-cattleya × Wilsoniæ, a very pretty hybrid, which is noted on another page.

J. Bradshaw, Esq., The Grange, Southgate (gr. Mr. Whitelegge), received a Silver Flora Medal for a fine group of Cattleyas, containing C. × Mantinii, C. × M. nobilior, C. × J. Baguley (Bowringiana × Hardyana), and the white C. × Parthenia, with rose marking on the lip.

Sir Trevor Lawrence, Bart., Burford Bridge (gr. Mr. White), was awarded a Silver Banksian Medal for a fine group, containing Sophro-cattleya × Chamberlainiana, Cypripedium × picturatum, C × Helvetia, and others. A fine example of Cattleya Bowringiana, of immense size and in splendid condition, bearing many fine spikes, was awarded a

Cultural Commendation, as also did two fine specimens of Habenaria carnea and H. militaris.

J. Colman, Esq., Gatton Park, Reigate (gr. Mr. Bound), staged a fine group, for which a Silver Banksian Medal was awarded. It contained many good forms of Dendrobium Phalænopsis, one very light variety bearing seven beautiful spikes; Dendrobium bigibbum, D. chrysanthum, D. aureum, Cœlogyne speciosa, Epiphroniti × Veitchii, Camaridium ochroleucum, Phalænopsis grandiflora, Miltonia Regnellii citrina, Cattleya Dowiana aurea, and others.

Captain Holford, Westonbirt, Tetbury (gr. Mr. Chapman), received a Cultural Commendation for two fine examples of Vanda Kimballiana, one of which bore one hundred and thirty-five flowers on eleven spikes, while the second bore fewer but larger spikes, one of which carried twenty-four expanded flowers. He also sent a good dark form of Lælio-cattleya × Ingramii.

R. I. Measures, Esq., Camberwell (gr. Mr. Chapman), received a Botanical Certificate for Pleurothallis lateritia, a small plant, bearing thin spikes of reddish orange-coloured flowers.

W. M. Appleton, Esq., Hill Road, Weston-super-Mare (gr. Mr. Brooks), showed a good form of Cypripedium × Eos (niveum × Charlesworthii).

Isaac Carr, Esq., Twerton-on-Avon, sent a spike of a hybrid between Cypripedium Curtisii and C. Rothschildianum.

C. L. N. Ingram, Esq., Elstead House, Godalming (gr. Mr. Bond), showed Cattleya × Firefly (Bowringiana × Dormaniana), having curious flowers of a pale lilac-purple colour.

W. Thompson, Esq., Walton Grange, Stone (gr. Mr. Stevens), exhibited a form of Odontoglossum × crispo-Harryanum called "Lily," having the ground colour of the sepals and petals tinged with light rose.

T. W. Thornton, Esq., Brockhall, Weedon, showed Cattleya × weedoniensis (granulosa Schofieldiana × Mendelii).

R. Tunstill, Esq., Monkholme, Brierfield, Burnley, (gr. Mr. Balmforth), showed a fine example of Odontoglossum grande aureum.

Messrs. Charlesworth & Co., Heaton, Bradford, were awarded a Silver Flora Medal for a fine group of thirty-six plants of Oncidium Forbesii, and some fine hybrids. A First-class Certificate was given to Cattleya × Iris aureo-marginata, a fine plant having the sepals and petals of a bronze yellow, with bright yellow at the margin, the large lip being rich crimson in colour, changing to a deeper claret crimson in the centre. Lælio-cattleya × Haroldiana Charlesworth's variety (L. tenebrosa × C. Hardyana), also received a First-class Certificate. The flower was greenish-yellow, freckled and marbled with rich claret-purple, and the lip rich claret-crimson with a trace of yellow veining. An Award of Merit was given to Cattleya ×

Lottie (Aclandiæ × Trianæ Backhousiana) having the sepals and petals light rose, the latter tipped with purple, and the lip ruby-purple in colour.

M. Ch. Maron, Brunoy, France, showed Cattleya × Mrs. Herbert Graves (Harrisoniana × Gaskelliana alba) having pale pink flowers with a white lip; and C × Lady Ingram Maron's variety (Eldorado × Dowiana aurea) a very beautiful hybrid, which is described on another page. It received an Award of Merit.

Messrs. J. Veitch and Son, Chelsea, showed the beautiful Lælio-cattleya × Dominiana langleyensis (L. purpurata × C. Dowiana). Cattleya × Clytie (Bowringiana ♀ × velutina ♂) and Epilælia × Eros (L. Dayana ♀ × E. ciliare ♂). The latter was a remarkable plant, having the sepals and petals most resembling E. ciliare, but rather broader and tipped with purple, and the lip ovate, slightly concave, ciliate, and undulate at the margin, and the colour white at the base, somewhat lined with purple, and bright purple at the apex.

Messrs. Hugh Low & Co., Bush Hill Park, showed a plant called Dendrobium Amesiæ, a native of New Guinea, much like D. taurinum, with the flowers white tinted with rose.

Mr. H. A. Tracy, Twickenham, showed a spike of a supposed natural hybrid between Cattleya bicolor and C. Leopoldi.

At the meeting held on October 29th there was again a very fine display, and seven awards were made.

Sir Frederick Wigan, Bart., Clare Lawn, East Sheen (gr. Mr. Young), sent Lælia × Olivia (crispa × xanthina), a handsome thing, having orange-yellow flowers, with the front lobe of the lip crimson, and Cattleya Warscewiczii Wigan's var., a beautiful white form, having the front lobe of the lip marbled with rose except at the margin, each receiving a First-class Certificate.

J. Bradshaw, Esq., The Grange, Southgate (gr. Mr. Whitelegge) received a Silver Flora Medal for a fine group, which included Lælio-cattleya × exoniensis, Cypripedium insigne Sanderæ, Cymbidium giganteum, Cattleya Dowiana aurea, C. Loddigesii alba, C. × Mantinii, C. × John Baguley, and some good forms of C. labiata. Awards of Merit being given to C. l. glauca, and C. l. C. C. Whitelegge.

C. H. Feiling, Esq., Southgate House (gr. Mr. Stocking), received a Silver Flora Medal for a very fine group, in which many good forms of Cattleya labiata were interspersed with Cypripediums × Morganiæ, × Mœnsii, insigne, and others, Miltonia candida, M. spectabilis Moreliana, Lælia pumila, Odontoglossum crispum, &c.

Frau Ida Brandt, Zurich (gr. Mr. Schlecht) sent Epidendrum osmanthum, and the pretty little Waluewa pulchella.

H. L. Bischoffenheim, Esq., Warren House, Stanmore (gr. Mr. Gleeson), sent a fine and very richly coloured form of Cattleya labiata.

Col. Brymer, M.P., Ilsington House, Dorchester (gr. Mr. Powell), sent Lælio-cattleya × Powelii (C. Mendelii ♀ × L.-c. × Schilleriana Wolstenholmiæ ♂), a pretty light hybrid, with some crimson-rose in front of the yellow disc of the lip.

N. C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gr. Mr. Murray), sent Cypripedium × Lawrebel Oakwood var. (bellatulum ♀ × Lawrenceanum Hyeanum ♂), a fine form, densely spotted with purple on a white ground.

Messrs. James Veitch & Sons, Chelsea, sent a choice group, which gained a Silver Flora Medal. It included the handsome Lælio-cattleya × Dominiana langleyensis, L.-c. × Statteriana, L.-c. × Decia, L.-c. × Semiramis, Cattleya × Fabia, C. × Portia, and Lælia × Mrs. M. Gratrix. A First-class Certificate was given to Cattleya × Browniæ Veitch's var. (Harrisoniana × Bowringiana), a large and handsome form, and Awards of Merit to C. × Bactia (Bowringiana × Leopoldi), most like the latter in shape and the former in colour, and Lælio-cattleya × Ophir (L. xanthina ♀ × C. Dowiana aurea ♂), a striking form with yellow sepals and petals and a tawny purple lip.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

September 26th, 1901.

AWARDS were made as follows:—

FIRST-CLASS CERTIFICATES.

Lælio-cattleya × Madame Charles Maron. J. Leemann, Esq.

Cypripedium × Macfarlanei (C. × Harrisianum × bellatulum). T. Statter, Esq.

Cypripedium Charlesworthii × Harrisianum. J. R. Fletcher, Esq.

AWARDS OF MERIT.

Cypripedium Charlesworthii, High View var. Mr. A. J. Keeling.

Cypripedium Charlesworthii, Keeling's var. Mr. A. J. Keeling.

CULTURAL CERTIFICATE.

Dendrobium formosum giganteum. O. O. Wrigley, Esq.

SILVER MEDAL.

Group of Orchids containing Cattleya Lueddemanniana alba, Lælio-cattleya × Schilleriana Wolstenholmiæ, Oncidium Papilio, &c. W. Duckworth, Esq.

October 11th, 1901.

FIRST-CLASS CERTIFICATES.

Cattleya aurea Souvenir de Queen Victoria. A. Warburton, Esq.

Cypripedium × Maudiæ magnificum. G. W. Law-Schofield, Esq.

Cattleya × Maroni magnifica. A. Edge, Esq.
Cattleya × Parthenia rosea. M. A. A. Peeters.
Odontoglossum grande var. aureum. M. A. A. Peeters.

AWARDS OF MERIT.

Lælio-cattleya hybrid (L. purpurata × C. Dowiana aurea), J. Leemann, Esq. This is a form of L.-c. × Dominiana.

Cypripedium × Lawrenworthii (C. Lawrenceanum × Charlesworthii). M. A. A. Peeters.

NOTES.

Two meetings of the Royal Horticultural Society will be held at the Drill Hall, Buckingham Gate, Westminster, during November, on the 12th and 26th respectively, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

Meetings of the Manchester and North of England Orchid Society will be held at the Coal Exchange, Manchester, on November 7th and 21st. The Orchid Committee meets at noon, and the exhibits are open to inspection from 1 to 3 p.m.

The Horticultural Society of New York has decided to hold an International Conference on Plant Breeding and Hybridization some time in the autumn of 1902. A preliminary programme of subjects has been issued over the signature of Dr. Britton, the chairman of Council, in which we notice a paper on—

Orchid Hybrids. (Illustrated by specimens of the parents and progeny). By Oakes Ames, Ames Botanical Laboratory, North Easton, Mass.

Also the following papers of a general character which may possibly contain facts of interest to Orchidists :—

Variations in Hybrids, not appearing in the First Generation, but later. By E. S. Goff, Horticulturist, Agricultural Experiment Station, University of Wisconsin.

Cytological Aspects of Hybrids. By W. A. Cannon, Columbia University, New York City.

Other papers, the titles of which have not yet been communicated, are also promised from various experimentalists. The dates have not yet been confixed, but further particulars will be made public as arrangements are concluded. For information relative to the Conference, address all correspondence to the secretary, Leonard Barron, 136, Liberty Street, New York.

Mr. W. Bateson, M.A., F.R.S., and Mr. George Nicholson, V.M.H., have consented to represent the Royal Horticultural Society at the Conference.

Aëranthes ramosa (Rolfe) is a new species of this genus, collected in Madagascar by M. Warpur, which recently flowered with Mr. F. W. Moore, at the Royal Botanic Garden, Glasnevin, and with M. A. A. Peeters at Brussels. It is remarkable for its very long, slender, branched raceme, the specific name being given in allusion to the latter character. The flowers are dull olive green in colour, and most resemble those of A. dentiens, Rchb. f., in general character.

ORCHID PORTRAITS.

CATTLEYA × FULVESCENS.—*Gard. Mag.*, 1901, p. 644, with fig.

CATTLEYA × HARDYANA ROCHFORDIANA.—*Journ. Hort.*, 1901, xliii., p. 305, with fig.

CATTLEYA × IRIS VAR. AUREO-MARGINATA.—*Gard. Mag.*, 1901, p. 690, with fig.; *Journ. Hort.*, 1901, xliii., p. 397, with fig.

CATTLAYA TRIANÆ VAR. A. DE MEULENAERE.—*Rev. Hort. Belge.*, 1901, p. 217, with plate.

CYMBIDIUM TIGRINUM.—*Amer. Gard.*, xxii., p. 715, fig. 151.

DENDROBIUM THRYSIFLORUM (specimen plant).—*Garden*, 1901, lix., p. 282, with fig.

HABENARIA LUGARDII, Rolfe.—*Bot. Mag.*, t. 7798.

LÆLIA PRÆSTANS ALBA.—*Journ. Hort.*, 1901, xliii., p. 349, with fig.

TRICHOPILIA SUAVIS.—*Journ. Hort.*, 1901, xliii., p. 371, with fig.

CORRESPONDENCE, &c.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they may have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.)

W. H. S. The insect is the Australian cockroach, Periplaneta australasiæ, which differs from the common pest of our kitchens in its brown colour, in having a yellow border round the thorax, with a yellow band on the outer basal margin of the wing case, and in having both sexes winged. It is a great pest, and efforts should be made to stamp it out by the use of beetle poison, and by placing jars of treacle and water among the plants.

W. H. Y. Calanthe madagascariensis, Rolfe.

J. W. A. Oncidium carthaginense, Sw.

E. B. Paphiopedilum × Allanianum (see note on another page).

I. B. Epidendrum osmanthum, Rodr., and Waluewa pulchella, Regel.

Received. W. S., F. M. B., F. J. L. M., W. H. W., J. M., A. H. J.

Photographs received with thanks. H. J. C.

Several matters unavoidably stand over till next month.

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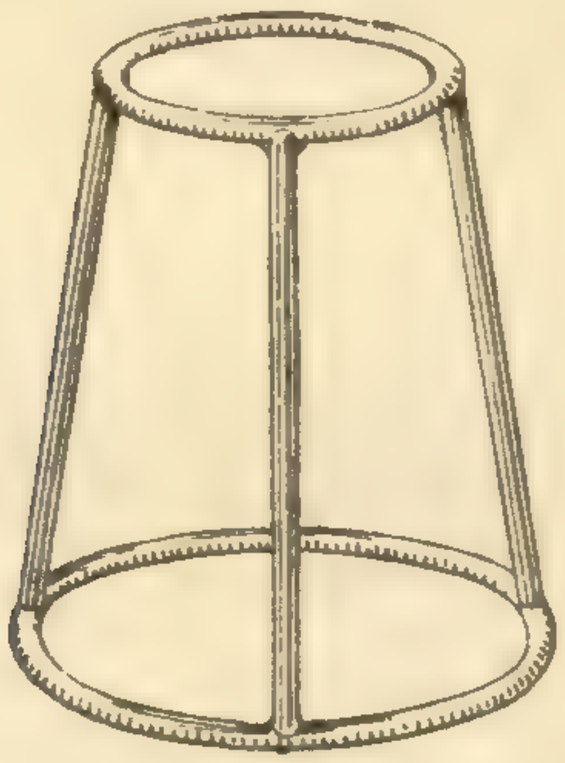

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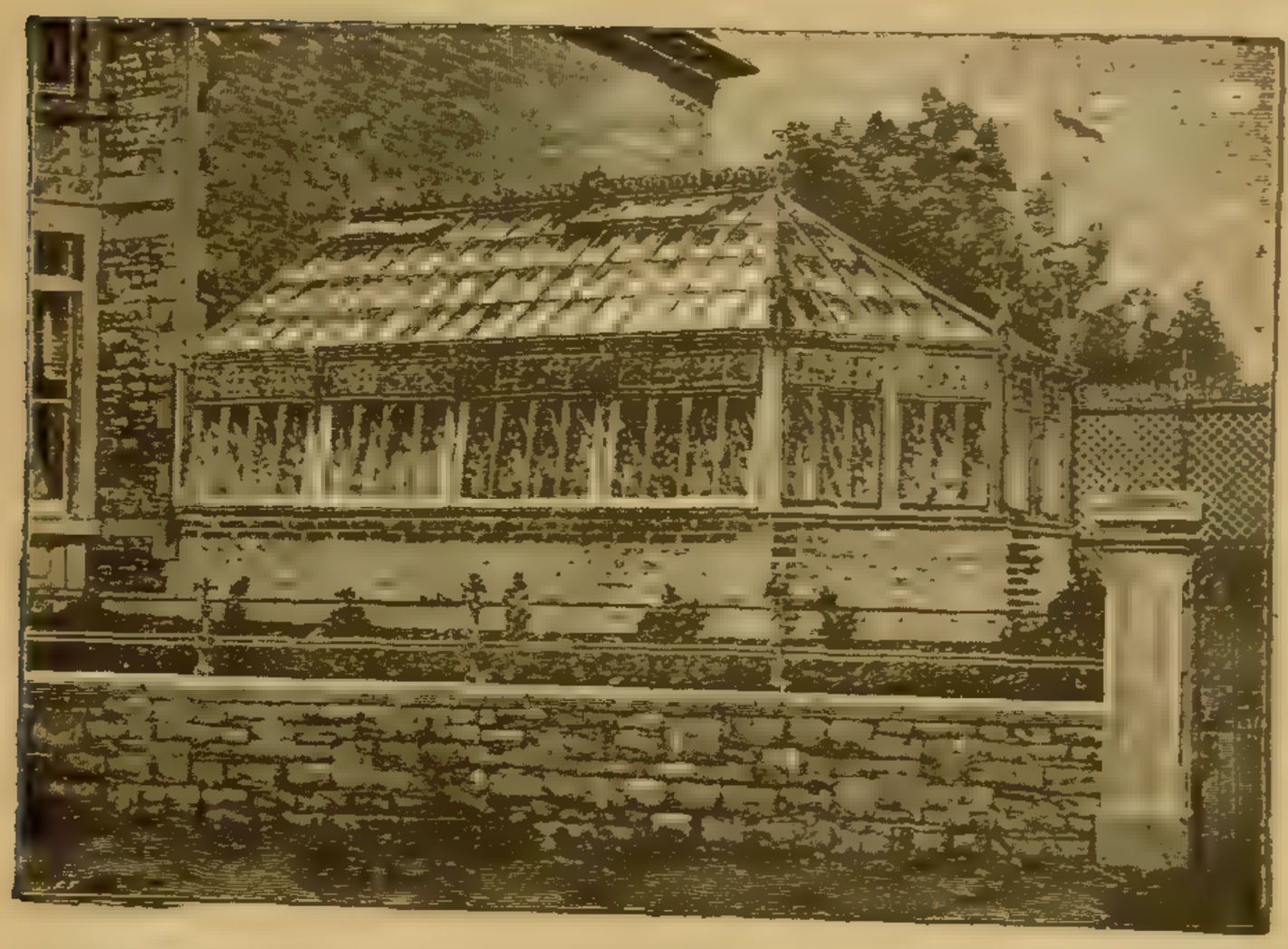

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THE ORCHID REVIEW:

An Illustrated Monthly Journal,

DEVOTED TO ORCHIDOLOGY.

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THE ORCHID REVIEW.

VOL. IX.] *DECEMBER*, 1901. [No. 108.

ORCHIDS AT CAMBERWELL.

IT is interesting to watch the progress made in some of our Orchid collections in the course of a few years. An account was given in our second volume of the collection of R. I. Measures, Esq., Cambridge Lodge, Flodden Road, Camberwell, (pp. 102-106), and we have subsequently had the pleasure of looking through it, the last occasion being only a few weeks ago. Mr. Chapman has gone in for hybridising extensively during the last few years, and, after overcoming some of the preliminary difficulties, has been very successful. We saw over a thousand young seedlings which have been potted up this year of Cattleyas and Dendrobiums only, most of them from very promising crosses, and there are many of other genera, some cases being filled with little seedlings in thimble pots. Some are found to germinate very well on cocoa-nut fibre, and Mr. Chapman pointed out that seedlings which germinate on pieces of bracken rhizome will grow on without being pricked off. We were much interested in some germinating seeds of Nanodes Medusæ crossed with Cattleya Mossiæ, and speculated on what the result of such a curious cross might be. Seedlings of Lælia Digbyana crossed with both Cattleya Warscewiczii and C. Mendelii about a year old seemed perfectly healthy. Seedlings of Paphiopedilum bellatulum do well here, likewise the old plants. Some seedlings of P. venustum Measuresianum were pointed out as having come perfectly true from seed, so far as the leaf characters were concerned, for they have not yet flowered, but the absence of the purple markings from the under side of the leaves is sufficient proof that the albinism will be perpetuated, as has been observed in other cases. We might prolong our notes on this subject, but shall hope to hear of these seedlings again when they reach the flowering stage, contenting ourselves for the present with mentioning some of the plants seen in flower in the different houses.

Cattleya labiata was then in flower, and we noticed the usual amount of

variation between the different plants. The form known as R. I. Measures' variety is a beautiful white, with radiating pink veins on the front of the lip. Interspersed with the above were plants of C. Dowiana, Warscewiczii, Bowringiana, the handsome C. × Portia, Lælio-cattleya × Schilleriana, and a late Lælia tenebrosa, forming a very bright display. It was interesting to note here three fine pods of Lælia Digbyana, from which seedlings may be expected in due time.

Paphiopedilums are of course well represented, the most noteworthy being nice little specimens in bloom, of P. × Arthurianum with six flowers, P. × Ballantinei, P. purpuratum, nice examples of P. Charlesworthii, P. × orphanum, P. × Unixia, and its variety superbum, P. × Wottoni with a twin-flowered scape, P. × enfieldense, good, P. × Canhami, and a quantity of P. insigne, and the various hybrids from it, throwing up their scapes. Many others were in bud, and we also noted a curious little hybrid between P. × Appletonianum ♀ and P. barbatum ♂, fairly intermediate in character.

Masdevallias are also highly appreciated, and the collection is remarkably complete. Among those noted in flower were, M. × Imogen with nine scapes, M. × Asmodia, M. × Ajax, M. × McVittiæ, M. × glaphyrantha, M. corniculata with eight flowers, the rare M. Burbidgei, and a few of the scarlet-flowered species. This, of course, is not their flowering season, but most of the plants are pictures of health, M. Chimæra and M. racemosa being particularly good. M. simula was a forest of leaves, nine inches across, and we noted half a dozen plants of the rare M. trinema (Lowii) which have flowered freely. Restrepia, and some of the allied genera, are also well represented, and we noted in flower R. guttata, Scaphosepalum antenniferum, and the tiny little Pleurothallis lateritia with brick-red flowers. The unique plant of P. punctulata continues to thrive, and is remarkable for having its leaves densely covered with a whitish mealiness.

Other things noted in flower in the different houses were Pleurothallis violacea, Odontoglossum Harryanum, three well-bloomed plants of Cœlogyne Massangeana, several good plants of Oncidium cheirophorum throwing up numerous spikes, a fine O. ornithorrhynchum album with seventeen spikes, good plants of the typical form, Cochlioda rosea, Miltonia spectabilis Moreliana, and some good Sophronitis grandiflora showing for flower. Odontoglossum crispum succeeds admirably in the usual compost, and under the modern system of using only a single crock. Mr. Chapman remarks that he could not grow them so under the old system. He, however, does not seem inclined to try the new compost of oak-leaves. Oncidium macranthum and its allies do well under the same treatment, and Maxillaria Sanderiana only thrives in the Odontoglossum house.

In a Warm house we noticed three plants of Vanda Sanderiana throwing

up spikes, also the unusual sight of some Vanda pods, these being V. tricolor × Sanderiana, and V. Parishii × suavis. We hope seedlings will be obtained. The plants here were also thriving, and we noticed a beautiful example of Vanda Parishii Marriottiana with seven perfect leaves.

In going through a collection like this, and especially in seeing the thriving condition of the seedlings, it is difficult to realize that the locality is so completely within the Metropolitan area, and the fact should be encouraging to others in similar circumstances, for it is certain that Orchids can be grown, and grown well, in such localities, when other conditions are suitable.

DENDROBIUM NOBILE GROWN OUT OF DOORS DURING SUMMER.

THE following interesting note on the open-air treatment of Dendrobium nobile during summer is given by Mr. W. P. Bound in the *Gardeners' Chronicle* for November 2nd (p. 329):—"On the occasion of a visit that I paid to the gardens of T. Taylor, Esq., Margery Hall, near Reigate, I noticed a number of aged plants of Dendrobium nobile just coming into profuse flower. On inquiry of the gardener, Mr. Seaman, he gave me information in regard to his method of getting D. nobile to flower at this season. The plants were grown in the ordinary manner, after flowering last February, till about the month of July, at which time the young growths were nearly made up. They were then placed in a Cool house for a few days to harden, and at the end of that month they were placed out of doors in the full sun, without any protection whatever, where they remained till the end of the month of September. The flower-buds got very forward, and on the plants being brought under glass, the former began to develop, and on October 22nd a good many of them had expanded, and the plants promised to be a mass of flower in about ten days later. The young growths are not injured by this out-of-doors treatment; in fact the pseudobulbs are hard and well developed. I have often observed a few odd flowers at this season, especially on plants newly imported, but never before have I seen D. nobile flower as profusely in October as in the spring. Mr. Seaman will probably take these plants to one of the November meetings of the Royal Horticultural Society. I have also noted several fine plants of the Australian species, D. speciosum var. Hillii, pushing up their flower-buds. This plant grows freely under Mr. Seaman's management, the same kind of treatment being afforded after growth is finished as that found to answer with D. nobile, and the results are equally good every year, and the growth strong."

OBITUARY.

MR. JAMES CYPHER.—We regret to hear of the death of Mr. James Cypher, of the Queen's Road Nurseries, Cheltenham, which occurred on November 1st. The deceased was in his 74th year. Mr. Cypher was born at Tetbury, Gloucestershire, on December 31st, 1827, and when still a young man was appointed head gardener to Miss Savage, of that place, and in her service became one of the leading local exhibitors of plants. At her death, some time in the early sixties, he commenced business on his own account, on what was at that time nothing more than disused clay-pits, but which under his energy and skilful management gradually developed into a most prosperous business undertaking. The culture of Orchids was added to the business, and of late years has become quite a speciality, Mr. Cypher's success as a grower and exhibitor being well known. The Dendrobiums may perhaps be selected for special mention, his success with these plants being remarkable, and it may be added that his methods of treatment were given in a paper read before the Birmingham and Midland Counties Gardeners' Association in 1895, and published in these pages, being also repeated at pp. 107-109 of the present volume.

Mr. Cypher, who had been twice married, lost his first wife in 1863, and his second wife in February last. Soon afterwards he showed signs of failing health, and for the last few months had been steadily declining, though he retained an interest in everything up to the last. He was elected to the Cheltenham Town Council in 1895, and re-elected in 1898, and it has been mentioned as a pathetic circumstance that his second term of office only expired the day before his death. He was also a member of the Cheltenham Board of Guardians from 1884 until April last, when he retired. He was interred at Cheltenham on November 4th, in the presence of a large number of friends, and many beautiful wreaths were sent by the leading residents. He leaves two sons and three daughters to mourn his loss. The business has been managed for some years by his son-in-law, Mr. John Cypher.

MR. A. H. SMEE.—Orchidology has suffered another loss in the death of Mr. A. H. Smee, The Grange, Hackbridge, near Carshalton, which took place at his residence on November 8th. Deceased was the son of Mr. Alfred Smee, the author of that well-known and valuable work, *My Garden*, and on the death of the father the possession of the famous garden described descended to the son, who, not only maintained its reputation, but enhanced it by the addition of a most interesting and representative collection of Orchids, which, a few years ago, we had the pleasure of inspecting. It contained, not only the usual showy kinds, but a large number of botanical species, and among the former may be mentioned a fine series of Cattleya Mossiæ varieties, in which Mr. Smee took a great interest.

He was a great advocate of the open-air treatment of Orchids during summer, and we found numbers of them arranged on open stages, placed over rivulets of running water, and in the shade of trees, and apparently quite happy in their surroundings. He was an accomplished chemist, and turned his knowledge to good account on the chemical constituents of Orchids, and an attempt to ascertain the cause of the degeneration which is sometimes so perplexing to Orchid growers. His papers on the "Chemical composition of Cattleya" appeared in our pages in 1895 (pp. 233, 270), and opened up several interesting questions which have a practical importance to Orchid growers, though some of the points involved have not yet been fully cleared up. Mr. Smee had long been an active member of the Orchid Committee of the R. H. S., and his death leaves another vacancy on that body. His name is commemorated in Lycaste × Smeeana and Saccolabium Smeeanum.

DENDROBIUM WARDIANUM.

(See Frontispiece.)

THE frontispiece to the present volume consists of a group of three plants of Dendrobium Wardianum, from the collection of O. O. Wrigley, Esq., Bridge Hall, Bury. They were selected from a group of Dendrobiums which were exhibited at a meeting of the Manchester and North of England Orchid Society on April 26th, 1900, and were photographed by Miss Wrigley. The centre plant is a compact and handsome specimen, and bears about 172 flowers on nine growths, while one of the growths on another plant measures 39 inches long, and bears 37 flowers. They are not newly imported plants, as they have been in the collection for two seasons, so that the flowering growths have been produced in this country. The species is sometimes said to deteriorate under cultivation, but this probably arises from its being placed under unsuitable conditions. At all events the present examples leave little to be desired in the way of improvement, and Mr. Rogers must be congratulated on his success in cultivating this beautiful species.

CULTURE OF ORCHIDS IN LEAF-MOULD.

PROGRESS still ORCHID REVIEW! Respecting the leaf-mould problem, do not omit reference to the special precautions necessary as to the *judicious use of the water-pot*. Well-timed advice is to give increased sunlight, so as to convert succulent vigour into more lasting tissue. This is absolutely necessary unless the enthusiast is content only with the beautiful green leaves and *apparent* happy healthfulness.

A. J. L.

VANDA HOOKERIANA.

DURING the past month a plant of the above has flowered in the garden of the Agri-Horticultural Society at Alipur. This distinct and beautiful species, somewhat resembling a small form of V. teres, has resisted repeated attempts to establish and flower it in Calcutta. But a well-rooted plant having been obtained, it was frequently syringed in the day time, and has produced five spikes with two to four flowers on each. The plant has long, terete, rooting stems, and erect, terete leaves about two to three inches long, tapering to a point; the flower stems grow out near the top and bear a raceme of two to five flowers, each about two inches in diameter; the sepals are white, tinted with rose, the large, oblong petals white, spotted with magenta, and the expanded lip, which is three-lobed and measures about two inches across, is white, beautifully lined longitudinally in the centre, transversely on the side lobes, and spotted near the edge on all the lobes with rich magenta-purple, a large, triangular, deep purple auricle standing on each side of the column. In Singapore Vanda Hookeriana flowers profusely and without any trouble, the equable climate suiting it, whereas the cold of the winter months and dry heat in the summer in Culcutta are unfavourable to successful cultivation. Said to be a native of Borneo, Perak, and Cochin China.—H. in *Indian Gardening*, Oct. 31st, 1901, p. 307.

INCONSPICUOUS AND RARELY-CULTIVATED ORCHIDS.

THE very interesting paper on the above subject which was read by Mr. W. H. White, Orchid grower to Sir Trevor Lawrence, Bart., at the R.H.S. meeting on March 26th last, is published in the last issue of the Society's *Journal* (pp. 136-152), and is accompanied by sixteen illustrations prepared from photographs. The following is a brief outline:—

Mr. White commences by remarking that Orchid culture during the last quarter of a century has extended with great rapidity, due to the increased taste for, and the appreciation of, this beautiful and interesting class of plants. But there has always been a general disposition to cultivate only the more showy genera. The author does not wish to persuade those who have not a real liking for the curiously-constructed and inconspicuous genera known as "Botanical Orchids" to attempt their culture, for unless undertaken seriously it would only result in disappointment and the loss of plants, of which the supply is all too limited for those who, having a taste for these little plants, find in them a real and ever-varying pleasure. The remark that Orchids, like domestic animals, soon find out whether they are under the care of those who really love them, and thrive or fail accordingly, is very well illustrated by these frail little genera. For while with care and

attention many are fairly easy to cultivate, neglect for a short time may bring about their loss. Still he advises Orchid growers to give them a greater share of attention, even if that be confined to the careful cultivation of the few little curiosities which from time to time fall into their hands by being imported on masses of showier Orchids. In this way some few collections, whose owners formerly held inconspicuous Orchids in contempt, now contain interesting and valued groups of them. Above these considerations, too, for one who cares for singular waifs and strays of Orchid life, there is the knowledge that he is contributing in some degree to the cause of science. For out of such chance arrivals many a new genus or species has been recorded and described, and a still larger number of those previously described have by their appearance in gardens supplied herbaria with coveted material.

Perusal of any botanical work on Orchids discloses the fact that many species are not in cultivation, and any of them may appear at any time, if only as one or two specimens. Many of the showier genera have modest representatives among them, and others are largely composed of what are often called botanical curiosities, all of which have interesting structural peculiarities, and some of them are a source of wonder to those who see them for the first time, and of lasting interest to those who care to make a study of them.

Orchids might challenge comparison with any natural order in the beauty, colour, and diversity of their flowers, and a collection should properly aim at embracing representations of the various tribes, sub-tribes, and genera, and not a selection of the showy ones only. It might be said that it did not pay to import the smaller and less conspicuous species, however strange or beautiful they may be, but the additional cost of including a few of them with importations of the showy kinds would be small, and collectors would greatly add to the personal, as well as the scientific, interest of their collections by including in them the small and less showy genera.

Of the Dendrobiums probably not more than half are in cultivation, and the same applies to Cirrhopetalum, many of which are striking and beautiful, and some very remarkable in structure. C. Medusæ has the sepals so much distended as to give the spike the appearance of a head of long dishevelled hair, causing Lindley to remark :—"Certainly, if ever there was a Medusa, this must be the prototype before her beautiful tresses were changed into serpents." The large plant now at Burford came originally from Lady Dorothy Neville's collection about the year 1878. Three species of this genus had even received the award of a F.-c. C. from the R. H. S., namely, C. Rothschildianum, C. ornatissimum, and C. robustum. Of C. Mastersianum a noted Orchidist had remarked that the umbrella-like spread of its brown satiny sepals reminded him of a Lilliputian belle. The upper sepal and

petals of C. fimbriatum (fig. 50) are fringed round their margins with long glandular hairs, and the fleshy lip has two erect, longitudinal keels, and is attached by a very slender bristle, the balance being so nicely adjusted that a slight touch sets the whole of the lips in the umbel oscillating in a very

FIG. 50. CIRRHOPETALUM FIMBRIATUM.

curious fashion. They are easily cultivated in baskets or pans, filled with the usual compost, and suspended near the glass on the shady side of the warmest house.

The cultural remarks also apply to Bulbophyllum, a very large, polymorphic, and widely diffused genus, of which many remarkable species are

mentioned, including B. grandiflorum; the remarkable B. Beccarii which could not be called inconspicuous—B. barbigerum, of which a very graphic description by Dr. Lindley is given; B. comosum, whose head resembles a bottle-brush; B. auricomum, which, owing to its pleasant fragrance, is a

FIG. 51. BULBOPHYLLUM TREMULUM.

great favourite with Burmese ladies, who decorate their hair with it; and, among many others, B. tremulum (fig. 51), which has a peculiar, sensitive, hairy lip resembling a hand brush.

The author then successively alludes to Megaclinium, a remarkable genus allied to Bulbophyllum, the numerous epiphytal and terrestrial

Orchids of Australia, which are well worth growing, the remarkable Disas and other genera of South Africa, many of which have never been seen in cultivation, and the many beautiful Indian kinds. "A Century of Indian Orchids," by Sir Joseph Hooker, and "The Orchids of the Sikkim Himalaya," by Sir George King and Mr. Robert Pantling, are perfect mines of wealth for the seeker after curious, beautiful, and little, known Orchids.

As an example of the work that might be done by residents in foreign countries, the author mentions Mr. Lehmann, who during a quarter of a century of travels in the Andes of Colombia and Ecuador, has sent home many rare and inconspicuous Orchids, including Sievkingia and Trevoria, the pretty Polycycnis Lehmanni, and many others.

Few groups of plants produce such remarkable and interesting flowers as the quaint Catasetums, Mormodes, Cycnoches, and Coryanthes. Of the curious distinctiveness of their flowers, the wonderful apparatus for securing fertilization by insect agency, &c., a great deal might be written.

Masdevallias are now out of fashion, but, for beauty of colour, grace of form, and striking development, yield to few other genera, and some of the dwarf species when well cultivated are lovely little subjects. M. muscosa is remarkable for its mossy peduncles and the extraordinary sensitiveness of its labellum, which closes on the slightest touch of a small tubercle near its base, and then opens again after the lapse of about half an hour—an arrangement evidently connected with the fertilization of the flower, as the effect would be to imprison an insect that had crawled over the tubercle. As an example ef vegetable mechanism, interesting to everybody, nothing could be more interesting than this. M. deorsa has the unusual habit of growing head downwards, hence the name.

Of the allied genus, Pleurothallis, nearly 400 species are known to science, and of those in cultivation P. Roezlii has very richly coloured flowers when held up to the light, while P. Grobyi and P. ornata are examples of many which are of singular form and gem-like beauty. The Restrepias are most attractive floral objects, and there are numerous other genera, containing many interesting species, which the short time at his disposal only allowed him to mention by name.

As regards cultivation, some of the Orchids referred to were at present difficult subjects, but that was all the more reason for persevering with their cultivation. It was years before the cultivation of many Orchids which now grow to perfection in our houses was understood. But the smaller and less showy kinds present no greater difficulties than their larger and more pretentious brethren, and he hoped to see them more generally cultivated.

The illustrations comprise the following species:—Angræcum Sanderianum, Bulbophyllum barbigerum, B. Dayanum, B. patens, B. tremulum, Cirrhopetalum fimbriatum, C. Roxburghii, Masdevallia Estradæ, M.

Wageneriana, Megaclinium falcatum, Pleurothallis Grobyi, P. ornatus, P. Roezlii, Physosiphon Loddigesii, and Sarcochilus Hartmanni. The flower of Pleurothallis ornata, remarkable for its fringed sepals, is shown magnified eight times, and the concluding note points out that "an aluminium watch maker's glass, to be held in the eye, is a valuable help to the appreciation of the beauty of small flowers, as well as for the detection of nascent fungoid, and insect plagues. This valuable paper should be read in the original by all lovers of these interesting little plants. (We are indebted to the Royal Horticultural Society for the loan of the two blocks which illustrate this paper).

THE HYBRIDIST.

LÆLIO-CATTLEYA × HAMILTONI.—A very distinct and pretty hybrid, sent from the collection of Sir James Miller, Bart., Manderston, Duns, N.B., by Mr. Hamilton, with the recorded parentage, Cattleya bicolor × Lælia Dayana. Two distinct forms are sent—a twin-flowered scape of each—but they agree in having the small, rounded side lobes so characteristic of hybrids from Cattleya bicolor, and in other respects they are intermediate between the two parents. The finest form has a well-expanded flower, measuring five inches in expanse across the petals, which organs are over an inch broad. The colour of the sepals and petals is dark rose-purple, while the front lobe of the lip, the isthmus, and a broad band extending to the base of the lip, are very dark purple-crimson, and the side lobes pinkish white inside and light rose outside. The sepals and petals of the other are much paler, and have more of the shape and texture of L. Dayana, while the side lobes of the lip infold and clasp rather more than half the column. The plants also flowered a year ago, for at page 348 of our last volume there is a record of "two forms of a pretty hybrid from Cattleya bicolor and L. Dayana" from this collection. They are now sent to us with a request for a name, and as Mr. Hamilton has been for years a highly successful grower of Orchids, we suggest the above name as eminently suitable.

HOW SOME ORCHIDS THRIVE.

IN Trinidad Diacrium or Epidendrum bicornutum grows readily upon the rocks at the sea side, exposed to full sea breeze under a blazing sun when but slightly shaded. In the experimental station this plant is somewhat difficult to grow, but is fairly managed by imitating the natural conditions. This plant transplanted to the Grenada Gardens, some 80 miles N. E. of Trinidad, grows luxuriantly wherever placed with the greatest ease. The commonest of our woodland Orchids, Oncidium ampliatum, fails to thrive in our

baskets or on blocks under cultivation, but does fairly well put into the branches of a large tree. Schomburgkia Lyonsii transplanted from Jamaica is but an indifferent subject with us, while the mainland Schomburgkias Humboldtii and tibicinis grow luxuriantly placed upon any tree stem in the establishment. The latter imported from British Honduras forms fine plants in a few months when wild in a big tree.

Some Orchids thrive best left to themselves, while others do not appear to thrive unless they get as much attention as an infant, and are looked after regularly at stated hours of the day. Why this is so is not a question which can be quickly answered, but the probability is, that it is entirely dependent upon the suitability of the surrounding conditions, some of which may be absolutely essential to enable the plant to thrive. To discover these conditions is the work of time, but careful observation of cultivation carried on under difficult circumstances in the tropics, as well as in the emperate zone, generally shows the way to the cultivator to overcome the difficulty.—J. H. Hart in *Trinidad Bulletin*, 1901, p. 351.

SOCIETIES.

ROYAL HORTICULTURAL.

A MEETING of the above Society was held at the Drill Hall, Buckingham Gate, Westminster, on November 12th, when there was a fair display of Orchids, several of which received awards. The following members of the Orchid Committee were present:—H. J. Veitch, Esq., in the Chair; and Messrs. H. Ballantine, W. A. Bilney, R. Brooman-White, H. J. Chapman, W. Cobb, de B. Crawshay, J. G. Fowler, E. Hill, H. Little, H. M. Pollett, J. W. Potter, F. A. Rehder, F. Sander, H. A. Tracy, W. H. Young, J. O'Brien (Hon. Sec.), and M. Peeters, of Brussels.

J. Colman, Esq., Gatton Park, Reigate (gr. Mr. Bound), staged a fine group, and was awarded a Silver Flora Medal. It consisted largely of fine varieties of Cattleya labiata, some of them being very richly coloured; besides which there were good examples of C. Dowiana, Epidendrum vitellinum, Odontoglossum × Humeanum, a pretty white variety of Lælia pumila, having the lip flushed with pink and a small purple mark on either side near the apex; also cut spikes of Lælio-cattleya × Schilleriana, Cymbidium Tracyanum, Lælia anceps, &c.

G. Taylor, Esq., Margery Hill, Reigate (gr. Mr. Seaman), received a Silver Banksian Medal for three fine examples of Dendrobium nobile, which had been grown in the open air during summer, as described in a note on another page; also spikes of Cymbidium giganteum and Cattleya labiata.

W. P. Burkinshaw, Esq., The West Hill, Hessle, near Hull (gr. Mr.

Barker), exhibited a very fine example of Lælio-cattleya × Digbyano-Mendelii, called "Hessle variety," and was awarded a First-class Certificate. It is the finest variety which has yet appeared. The flowers are very large and finely shaped, and of a soft blush tint, with the handsomely-fringed lip of a bright rose colour, somewhat lined with purple near the base, and the centre of the disc soft primrose-yellow.

De B. Crawshay, Esq., Rosefield, Sevenoaks, exhibited Cymbidium Tracyanum Crawshayanum, a handsome dark variety, and Odontoglossum crispum Raymond Crawshay, the latter receiving a First-class Certificate. It was shown on May 7th last, when it received an Award of Merit, but since then it has produced a strong growth and a second inflorescence. The flower is large and well-shaped, white tinged with purple, especially on the back, and handsomely blotched with a peculiar bronzy-orange tint.

Captain Holford, Westonbirt, Tetbury (gr. Mr. Chapman), received an Award of Merit for Cattleya × mollis var. Lois (Gaskelliana virginalis × superba), a very pretty hybrid, about the size of Gaskelliana, but with the firmer texture and lip of the other parent. The sepals and petals were light rose in colour, and the front lobe of the lip purple, shading to rose near the margin, and the disc deep yellow.

W. Thompson, Esq., Walton Grange, Stone, Staffordshire (gr. Mr. Stevens), received an Award of Merit for Odontoglossum × crispo-Harryanum roseum, a very handsome form, having the sepals and petals rose-coloured, blotched with red-brown, and the lip white, blotched with purple at the base.

F. A. Bevan, Esq., Trent Park, New Barnet (gr. Mr. Parr), exhibited a prettily spotted form of Odontoglossum crispum.

J. Bradshaw, Esq., The Grange, Southgate (gr. Mr. Whitelegge), exhibited a fine plant of Cattleya × Whitei, with three flowers; two white forms of C. labiata, one having the front of the lip blotched and the other more or less veined with purple, and Lælio-cattleya × Decia.

Mr. J. Crook, Ford Abbey Gardens, Chard, showed two profusely-flowered examples of Cypripedium insigne.

The Hon. Walter Rothschild, M.P., Tring Park (gr. Mr. Hill), showed the large and handsome Cirrhopetalum Rothschildianum, which is remarkable for having the dorsal sepal and petals fringed with small leaf-like appendages.

Sir F. Wigan, Bart., Clare Lawn, East Sheen (gr. Mr. Young), showed Lælio-cattleya × Frederick Boyle.

G. Wilson, Esq., Mayfield, Christchurch Road, Streatham Hill, sent Cypripedium × Leeanum giganteum.

Messrs. Charlesworth & Co., Heaton, Bradford, exhibited Lælio-cattleya × Gottoiana, L.-c. × Luna (C. Harrisoniana × L. harpophylla) with

small yellow flowers; and L.-c. × Helena (L. cinnabarina × C. Schilleriana) having yellow sepals and petals tinged with brown, and the lip marked with claret-purple. A First-class Certificate was given to Sophrocattleya × Nydia (S. grandiflora × C. × calummata) having dark scarlet flowers with some small purple spots on the sepals and petals, and an Award of Merit to Lælio-cattleya × luminosa (L. tenebrosa × C. aurea), having straw coloureds epals and petals tinged with purple and a large, rosy-lilac lip.

Messrs. James Veitch & Sons, Chelsea, staged a small group of Cypripedium insigne Sanderæ, propagated from a plant of the original stock, and were awarded a Silver Banksian Medal. One plant bore seven flowers.

M. A. A. Peeters, Saint Gilles, Brussels, showed some good forms of C. × Whitei, home raised, C. × Mantinii, C. × Goossensiana, and Lælia × Iona.

At the meeting held on November 26th there was again a fine display of Orchids.

G. F. Moore, Esq., Bourton-on-the-Water, staged a fine series of cut Cypripediums, which gained a Silver-gilt Flora Medal. It contained over 150 blooms, and included a fine series of C. × Leeanum and C. insigne forms, among which C. i. Harefield Hall var. was the largest; also C. × Arthurianum, and others.

R. Tunstill, Esq., Monkholme, Burnley (gr. Mr. Balmforth), sent, Cypripedium insigne Sanderæ in extremely fine condition, also C. × Helen (insigne Chantini × bellatulum), a fine thing of intermediate character and a good Cattleya × Portia (Bowringiana × labiata), the two latter each receiving an Award of Merit.

F. A. Rehder, Esq., Gipsy Hill (gr. Mr. Norris), staged a fine group of hybrid Cypripediums, to which a Bronze Banksian Medal was given.

Mrs. Haywood, Woodhatch, Reigate (gr. Mr. Salter) received an Award of Merit for Cypripedium × Hitchinsiæ (insigne × Charlesworthii).

F. Wellesley, Esq., Westfield, Woking, sent Cypripedium × Massianum, and C. × Salus (concolor × Dayana), the latter a fine thing, which received an Award of Merit.

J. Gurney, Esq., Glebelands, S. Woodford (gr. Mr. Davis), received an Award of Merit for a handsome hybrid called Cypripedium × Mrs. Alfred Fowler (Charlesworthii × Lathamianum).

W. F. Bibbey, Esq., Hardwicke Grange, Shrewsbury (gr. Mr. Taylor), sent spikes of two good forms of Cattleya labiata.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), sent the handsome Odontoglossum crispum Crawshayanum.

Captain Holford, Westonbirt, Tetbury (gr. Mr. Chapman), sent a hybrid Cattleya, apparently a form of C. × intricata.

R. I. Measures, Esq., Cambridge Lodge, Camberwell (gr. Mr. Chapman) sent Cypripedium insigne Arthurianum, a good form with large dark markings on the dorsal sepal.

Messrs. James Veitch & Sons, Chelsea, sent a very fine group of hybrid Lælio-cattleyas, with a few others, which gained a Silver Flora Medal. A First-class Certificate was given to L.-c. × Semiramis superba (L. Perrinii × C. Gaskelliana), a very large and handsome form, and Awards of Merit to L.-c. × Illione (C. Bowringiana × L.-c. × Dominiana-langleyensis), and Lælia × Omen (autumnalis × purpurata).

Mr. A. J. Keeling, Cottingley, Bingley, received a Silver Banksian Medal for a fine group of Cypripediums, including some good forms of C. insigne, and various interesting hybrids, among which C. × Menelik (Boxallii × Calypso), and C. × radians (Charlesworthii × Spicerianum) were noteworthy.

Messrs. Hugh Low & Co., Bush Hill Park. showed a plant called Cattleya × Grossii, a supposed natural hybrid from Brazil, much resembling C. bicolor, but with a trace of spotting on the petals.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

A MEETING was held at the Coal Exchange, Manchester, on November 7th, when some fine Orchids were shown.

M. A. A. Peeters, Brussels, exhibited a fine plant of Cattleya × Hardyana alba, having white sepals and petals, and a lip of the usual colour. It was greatly admired, and received a First-class Certificate and a Silver Medal.

Captain C. C. Hurst, Hinckley, received a First-class Certificate for Cattleya × Iris oculata, a handsome variety, having well-defined yellow blotches in the throat, as in C. Warscewiczii.

E. Rogerson, Esq., Didsbury, received a Silver Medal for a group of Orchids, among them being a plant exhibited as Lycaste × Rogersoni, a supposed natural hybrid between L. Skinneri and L. plana, which received an Award of Merit, and a fine plant of Cypripedium insigne Harefield Hall var., having the flowers of a yellow hue, which it was suggested might be due to age.

T. Statter, Esq., Whitefield, sent a fine Cypripedium × Leeanum Albertianum and Lælio-cattleya Statteriana.

S. Gratrix, Esq., Whalley Range, sent a few good plants, among them being a fine Cypripedium insigne Sanderianum.

Mr. W. B. Upjohn received a Bronze Medal for a well-grown collection of Cattleya Bowringiana.

Mr. A. J. Keeling, Bingley, received a Bronze Medal for a group of Cypripediums, an Award of Merit also going to C. insigne picturatum, and to another plant called Cymbidium cyperifolium.

A second Meeting was held on November 21st, and brought together a fine display.

S. Gratrix, Esq., Whalley Range, exhibited a choice group of Cypripediums, which gained a Silver Medal. It contained several fine forms of C. insigne, a very fine plant of C. i. Harefield Hall var. being much admired. Among plants that came under the Committee's notice was C. callosum Gratrixiæ, which was quite different in character from what it was when shown in February last, the pouch being now of a dark polished mahogany colour, instead of greenish yellow. The Committee desired to see this plant again. C. insigne var. Mary Amelia Gratrix received a First-class Certificate. It is a bold flower, and very richly marked. C. i. var. George Cypher received an Award of Merit, as did also C. × Bookeri (C. ciliolare × Spicerianum).

O. O. Wrigley, Esq., Bury, staged one of the best cultivated collections of Cypripediums ever seen in or out of Manchester. The plants were not ponderous specimens, but fine useful pieces, with marvellous foliage, and nearly every other growth bearing a flower. A Silver Gilt Medal and Cultural Commendation were awarded. Awards of Merit were given to C. × Leeanum virginale, a nicely-shaped flower with a very pure dorsal sepal, and to C. insigne var. Marion, a good variety; and a First-class Certificate to C. i. speciosum.

M. Lucien Linden, Brussels, exhibited Cypripedium insigne Chantini var. Lindeni, a beautiful yellow form, which gained a First-class Certificate; also C. i. Luciani and Cattleya × Lansbergii (C. labiata × C. Dowiana aurea).

Messrs. Stanley, Ashton & Co., Southgate, staged a few good plants, the best being Lælio-cattleya × Hettie (L. tenebrosa × C. Warscewiczii), with a very fine dark lip, which gained a First-class Certificate. Another good thing was Cattleya × Juliæ (C. Bowringiana × labiata), well intermediate between the parents, which received an Award of Merit. Lælio-cattleya × Decia superba also received an Award of Merit.

A. Z. Lees, Esq., Stretford, exhibited a small collection of Cypripediums, and received a Vote of Thanks.

W. E. Watson, Esq., Stretford, exhibited a small group of Cypripediums, in which was noticed a nice plant of C. insigne Balliæ. A Bronze Medal was awarded.

R. Tunstill, Esq., Burnley, exhibited a very fine form of Cypripedium insigne Sanderæ called Monkholme var., a flower of great solidity and distinct form, which the Committee deemed worthy of a First-class Certificate.

Mr. A. J. Keeling, Bingley, had a few nice Cypripediums, a First-class Certificate going to C. insigne var. Brightness, and an Award of Merit to C. × Actæus High View var.

Mr. J. Robson, Altrincham, received a First-class Certificate for Cypripedium Lawrenceanum × concolor—a very fine, well-marked flower.

CYPRIPEDIUM FRED. HARDY.

On November 14th, 1896, a very interesting little plant from the collection of F. Hardy, Esq., Tyntesfield, Ashton-on-Mersey, received an Award of Merit from the R. H. S., under the provisional name of Cypripedium Fred. Hardy. Shortly afterwards it was figured in these pages (vol. v. p. 17), when its history was also given, so far as that was known. There remained, however, some uncertainty as to whether the plant was an albino of C. Charlesworthii or a natural hybrid. The general similarity to that species, and the identical staminode, favoured the former view, but the differently shaped dorsal sepal, and the relatively narrow petals, were characters difficult to account for, and the point never seems to have been cleared up. In Sander's *Orchid Guide* the plant is enumerated as a natural hybrid between C. Charlesworthii and C.

FIG. 52. CYPRIPEDIUM FRED HARDY.

Spicerianum? The circumstance now to be related rather tends to deepen the mystery. Mr. R. Eichel, Exotic Nursery, Eldwick, Bingley, sends for inspection a twin-flowered scape, with the uppermost flower, of "a seedling raised from C. Spicerianum × Charlesworthii," which is said to have taken "just over three years from sowing the seed until the flower stage was reached." The plant is said to be still very small. Being much struck with the general resemblance of the flower to that of C. Fred. Hardy we wrote to Mr. Eichel asking if there was any possible doubt in the matter. His reply is that there is absolutely no doubt about the parentage, and that he has two more plants, which, however, are too small to flower. The

leaves are said to be about intermediate between those of the two parents, favouring C. Charlesworthii slightly. We now repeat the illustration of C. Fred. Hardy, comparing with it the new seedling. The two agree fairly well in the shape of the dorsal sepal, particularly in the way it is folded near the apex, a character markedly different from the flat or slightly concave shape of C. Charlesworthii. The colour is white, with, in the new seedling, a little light yellow at the extreme base, and on it a trace of purple staining on either side. The petals spread almost horizontally, as in C. Charlesworthii, and are light yellow in colour, but with the darker marbling of the latter almost or quite obliterated. The pouch is light greenish yellow, rather shorter than in the above figure, and the staminode is broadly obovate, and porcelain white, with a yellow horn. These are almost the characters recorded of the earlier form, and the resemblance can scarcely be without significance. Without the definite record given above one would not have taken the present seedling as descended from C. Spicerianum. The absence of the purple band of the dorsal sepal, of the undulations of the upper margin of the petals, and of the colour and shape of the staminode—characters which are rarely quite absent from any Spicerianum hybrid—would be held as sufficient evidence for scouting the idea, and if this be so in the case of an artificial hybrid, it applies with additional force to the idea of C. Fred. Hardy being a natural hybrid between the same two species, for we have no evidence that the two grow intermixed. Whatever may be the real significance of the facts now pointed out, we have here a very interesting problem, and we hope that anyone who can throw further light on the matter will not hesitate to do so.

There is another closely allied plant about which very little seems to be known, namely, C. Crawshawæ, which was described as a new species by Mr. J. O'Brien in 1898 (*Gard. Chron.*, 1898, xxiii., p. 18), as follows:—"Some time ago, Messrs. J. Charlesworth & Co., of Heaton, Bradford, received from the Shan States a few plants of a quite new Cypripedium, which, after the manner peculiar to many good things, did not readily bear travel. The plant which I have seen somewhat resembles C. Parishii in growth, but the leaf and size of the plant are more those of C. Charlesworthii. The leaves are, however, much more fleshy than those of that species, and bright green above, and entirely grayish-green beneath, the plant in no part exhibiting the purple markings usually seen on C. Charlesworthii. The collector's letter and a fine, dried flower have now been forwarded. The collector says:—'It is an entirely new Cypripedium. The flower stalk is green and hairy; the flower is shaped like C. Charlesworthii, but it is larger, and the purple markings are entirely absent. In this the upper sepal is pure white, with a pale greenish blotch at the base and a very slight tinge of the same colour at the lip. The petals, lip, and lower

sepal are entirely of a pale, greenish yellow colour—my natives describe this as *aa-pyan-byan*—a soft yellow. The whole flower is very glossy, and I consider it a much finer thing than C. Charlesworthii.' The dried flower sent seems to bear out the collector's statement exactly. It may roughly be described as resembling C. insigne Sanderæ in colour, but with more of the form of C. Charlesworthii. In size, however, it is superior to both. Mr. Charlesworth wishes it to be dedicated to his sister." It ought now to be possible to give some more definite idea of what the plant is.

FIG. 53. LÆLIO-CATTLEYA × WILSONIÆ.

WE are now able to give an illustration of the pretty little Lælio-cattleya × Wilsoniæ which was described at page 324 of our last issue. A photograph of a flower from the certificated plant was taken by Mr. H. J. Chapman, and forwarded to us, and is here reproduced. As already mentioned, the plant is a reputed hybrid between Lælia Dayana and Cattleya labiata, but there is a striking resemblance to L. pumila in the lip, and a pair of orange blotches in the throat which are suggestive of C. Warscewiczii. The point may be cleared up hereafter. Meantime it is useful to preserve so graphic a record of the plant.

CALENDAR OF OPERATIONS FOR DECEMBER.

By H. A. BURBERRY, Orchid Specialist, King's Heath, Birmingham.

THE temperature should now be as follows :—

COOL HOUSE.—Day, 50° to 60° ; night, 45° to 50°.

INTERMEDIATE HOUSE.—Day, 55° to 65 ; night, 50° to 55°.

EAST INDIAN HOUSE.—Day, 60° to 70° ; night, 55° to 60°.

THE COOL HOUSE.—Ventilate as freely on all occasions as the outside conditions permit. Water very sparingly in all cases, no matter whether the plant is dormant or making growth. The roots of any Orchid, if examined after the winter has passed, will be found more healthy and more numerous on those plants that have been rather dry than on those kept wet ; therefore the former have more power, and soon run away from the latter. Once a day will now be necessary for damping down, and even that may not be required if the weather is damp and mild.

THE CATTLEYA, INTERMEDIATE, AND EAST INDIAN HOUSES.—The above advice is equally applicable to these, excepting that the greater the amount of fire heat necessary, the greater also must be the supply of moisture distributed for evaporating purposes. Damping down will therefore be required once a day or more, according to circumstances.

FOGS.—These have been so prevalent this autumn that I am afraid Orchid growers in large manufacturing towns, where smoke and noxious fumes are prevalent, have lost the chief beauty of their autumn and winter blooming plants. The grower is almost helpless in the matter; whatever his special treatment during a fog, he cannot wholly save the blooms, buds, and foliage. It is granted by all that the house should be then rendered as air-tight as possible, so that the fumes are shut out as well as can be. But whether to keep the atmosphere moist or dry seems still a debatable point. I have found a smaller loss from my plants with a moist atmosphere than a dry one. Other well-known growers recommend the reverse order of things. I should like **to hear a census of opinions on this matter.**

The Dendrobiums should by this time have become quite matured and hardened, and capable of withstanding great drought. Several of the earliest to bloom, such as D. × Cassiope, D. × endocharis, D. moniliforme, D. aureum, &c., will now have their flower buds pretty far advanced, and should be removed from their dry resting department to an intermediate temperature, so that they may come on slowly but surely. To put them in strong heat and to water heavily at this juncture would mean ruin to the crop of flowers, and most likely to the plants as well. It is only a few of the very earliest that may be selected for blooming before Christmas. Endeavour to keep the bulk back well into the new year, and better flowers **and healthier plants will result.**

Cattleya Percivaliana will be the next of the labiata section to flower, and some of its varieties are very beautiful. It is a free-growing species, but unfortunately not very free-flowering. Sheaths, however, appear plenteously, but the flowers are most sensitive, frequently failing to push, although they start to do so. A slight check during this embryo stage seems sufficient to cause failure. After the new pseudobulbs have matured it is best to select a nice, warm, and fairly dry position for them, watering them at the same time very sparingly throughout the flowering process. I have noticed that a wet state at the root, also a sudden low temperature, is very detrimental. C. Trianæ is also pushing flower buds, and is not so sensitive as the foregoing; but still the flowers do sometimes fail, and turn yellow in the sheath from the same causes. But Cattleyas are not the only culprits in this respect. Any other species that produces its flowers in mid-winter is liable to the same fate. It must not always be attributed to the fault of the grower; he can only do his best, and, however skilful, he will not always counteract the natural climatic conditions over which he has no control.

In the East Indian house the Phalænopses will be pushing flower spikes, but careful watering here also must prevail. It is thought sometimes that Orchids having no pseudobulbs, like these, cannot successfully withstand so much drought as those having them. Doubtless this is true, if a test of endurance was tried; but still it is remarkable what a little water is really necessary for the wants of pseudobulbless Orchids during the winter or resting season. For the next month or two they should certainly not be dipped or otherwise soaked with water; a surface wetting with a syringe occasionally being by far the safer plan.

Again, take the case of Masdevallias. It is marvellous the amount of drought they withstand, and then come out, when winter is over, with healthier foliage and with more flower spikes than those pampered up with too much moisture. It is over-watering which causes Masdevallia foliage to fall off—rotted at the base—during winter, rather than the low temperature to which it is generally attributed.

Peristeria elata should now be producing flower spikes. We seldom come across really well-grown specimens of this species; generally it is attacked with the black spot on the pseudobulb, which points to a moist and sappy growth. It is an ordinary East Indian house or stove plant, and the best specimens I have yet seen have been potted in ordinary potting soil of loam, leaf-mould, and sand, and then not again disturbed until they have actually overgrown their pots. Watering should at all times be done carefully, and a short dry rest given immediately after blooming.

The glass roof should by this time have been freed from dirt, so as to allow the maximum of light. See that each plant on the stages receives an equal share of light, by even and regular staging, so that the small ones may

have as good a chance as the large ones. A good supply of sphagnum and peat should be laid in this month ready for emergency. The new oak and beach leaves should be occasionally turned and exposed to the weather, so that decomposition is hastened in time for use in early spring.

ORCHIDS IN SEASON.

A MAGNIFICENT six-flowered inflorescence of Cattleya × Mrs. J. W. Whitely is sent from the collection of Sir James Miller, Bart., Manderston, Duns, N.B., by Mr. Hamilton. Its parentage is given as C. Bowringiana × C. × Massiana—the latter of course being a form of C. × Hardyana. This beautiful hybrid might be described as an improved C. × Mantinii nobilior (flowers of which are also sent for comparison), so great is the general resemblance, but besides the enhanced size, there is more yellow in the throat—a character which may be traced to the influence of C. Warscewiczii. The flower is almost perfect in shape, and the petals are $1\frac{3}{4}$ inches broad, with other dimensions in proportion. The colour may be described as brilliant purple-rose, and the effect, especially by artificial light, is superb. A light form of L.-c. × Statteriana, from a plant flowering for the first time, is also sent.

Some beautiful flowers are sent from the collection of the Right Hon. Joseph Chamberlain, M.P., by Mr. Mackay, amongst them being Lælio-cattleya Statteriana and L.-c. × Semiramis, two of the handsome hybrids from Lælia Perrinii. Cattleya × suavior is a charming hybrid from C. intermedia and C. Mendelii, originally raised by Messrs. Veitch, and as nearly intermediate between the two parents as could be expected, both in shape and colour. Other interesting things are Cattleya × O'Brieniana, and the beautiful Dendrobium × formoso-Lowii, most like D. formosum in shape and colour, but with the characteristic hairy disc of D. Lowii.

Several fine things are sent from the collection of E. J. Lovell, Esq., Oakhurst, Oxted, by Mr. Jones, including a very beautiful Cattleya Dowiana aurea with a large amount of yellow on the lip, a light form of C. Loddigesii which was nearly white when it first opened, C. Bowringiana, and the rare C. Dormaniana. Three flowers of the brilliant little Sophronitis grandiflora differ much in size, and Mr. Jones remarks that as a result of growing them this year in the Intermediate House they have flowered fully six months earlier than last season. Three flowers of Lycaste Skinneri are sent to show the wide amount of variation in the species, these being selected from a batch of twenty plants which have been in flower for some weeks, no two being exactly alike. One has a very richly coloured lip. A good Paphiopedilum × Allanianum has a twin-flowered scape, and the petals are densely spotted throughout as in the Curtisii parent, while the

dorsal sepal is well-coloured at the base, and the dark band of Spicerianum is very prominent. Three good forms of P. insigne, and a very well-shaped Odontoglossum crispum complete the list.

A good, richly-coloured flower of Cattleya Dowiana aurea is sent from the collection of F. M. Burton, Esq., Highfield, Gainsborough, which illustrates the decorative value of the plant at this season. A fine form of Paphiopedilum tonsum is also sent.

A beautiful inflorescence of Epidendrum vitellinum is sent from the collection of W. Thompson, Esq., Walton Grange, Stone. Mr. Stevens remarks that they have plants carrying five to eight spikes, and that they are very bright and showy at this season of the year. The rare Odontoglossum præstans is also sent.

NOTES.

THE next meeting of the Royal Horticultural Society will be held at the Drill Hall, Buckingham Gate, Westminster, on December 17th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The Manchester and North of England Orchid Society will hold its last meeting for the present year at the Coal Exchange, Manchester, on December 12th. The Orchid Committee meets at noon, and the exhibits are open to inspection from 1 to 3 p.m.

A Singapore paper states that the plant of Grammatophyllum speciosum in the Singapore Botanic Garden has this year produced fifty-five spikes, with an aggregate of over 3,000 flowers and buds. It is interesting to note that the large plant in the Victoria House at Kew is at last producing two spikes, which are now about half grown.

A very large and handsome form of Lælio-cattleya × bletchleyensis has been sent by M. Ch. Vuylsteke, Loochristi, Ghent, with the record of parentage Cattleya Warscewiczii ♀ × Lælia tenebrosa ♂. The petals measure 4 inches long by over 2¼ inches broad, and are bright rose-purple in colour, while the lip is of corresponding dimensions, and is rather darker in colour, with a zone of blackish-purple in the throat.

Two flowers of Paphiopedilum insigne with curiously deformed lips are sent from the collection of O. O. Wrigley, Esq., Bridge Hall, Bury, and Mr. Rogers states that last year the flowers of this plant were without any lips at all.

Flowers of what appear to be Paphiopedilum × regale (insigne × purpuratum) are sent from the collection of E. F. Clark, Esq., of Teignmouth, one of which has the lip divided into two almost petal-like organs, while the column bears three stamens in addition to the usual staminode.

ORCHID PORTRAITS.

ANGRÆCUM SANDERIANUM.—*Journ. R. Hort. Soc.*, xxvi., p. 150, fig. 79; *Journ. Hort.*, 1901, xliii., p. 459, with fig.

BULBOPHYLLUM BARBIGERUM.—*Journ. R. Hort. Soc.*, xxvi., p. 142, fig. 73.

BULBOPHYLLUM DAYANUM.—*l.c.*, p. 142, fig. 73.

BULBOPHYLLUM PATENS.—*l.c.*, p. 142, fig. 73.

BULBOPHYLLUM TREMULUM.—*l.c.*, p. 142, fig. 72.

CATTLEYA × BROWNIÆ, VEITCH'S VAR.—*Journ. Hort.*, 1901, xliii., p. 437, with fig.

CIRRHOPETALUM FIMBRIATUM.—*Journ. R. Hort. Soc.*, xxvi., p. 104, fig. 71.

CIRRHOPETALUM ROXBURGHII.—*l.c.*, p. 139, fig. 70.

CŒLOGYNE DAYANA.—*Amer. Gard.*, xxii., p. 731, fig. 153.

LIPARIS TRICALLOSA, Rchb. f.—*Bot. Mag.*, t. 7804.

MASDEVALLIA ESTRADÆ.—*Journ. R. Hort. Soc.*, xxvi., p. 146, fig. 75.

MASDEVALLIA WAGENERIANA.—*l.c.*, p. 142, fig. 73.

MEGACLINIUM FALCATUM.—*l.c.*, p. 142, fig. 73.

ODONTOGLOSSUM CIRRHOSUM.—*Journ. Hort.*, 1901, xliii., p. 415, with fig.

ODONTOGLOSSUM MACULATUM.—*Journ. Hort.*, 1901, xliii., p. 415, with fig.

PHRAGMIPEDILUM × MACROCHILUM. — *Amer. Gard.*, xxii., p. 763, fig. 160.

PHYSOSIPHON LODDIGESII.—*Journ. R. Hort. Soc.*, xxvi., p. 151, fig. 80.

PLEUROTHALLIS GROBYI.—*l.c.*, p. 142, fig. 73; p. 148, fig. 77.

PLEUROTHALLIS ORNATA.—*l.c.*, p. 149, fig. 78.

PLEUROTHALLIS ROEZLII.—*l.c.*, p. 147, fig. 76.

SARCOCHILUS HARTMANII.—*l.c.*, p. 144, fig. 74.

SOPHRONITIS GRANDIFLORA ROSSITERIANA.—*Gard. Mag.*, 1901, p. 760, with fig.

TEVORIA CHLORIS, Lehm.—*Bot. Mag.*, t. 7805.

CORRESPONDENCE, &c.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they may have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.)

G. B. Possibly a form of Paphiopedilum × Harrisianum.

A. J. K. Cymbidium longifolium with rather narrow leaves.

I. B. Oncidium bicornutum.

S. D. Lælio-cattleya × Helena. Paphiopedilum not yet identified. Thanks for note.

A. H. N. Lælia autumnalis (not var. atrorubens), and a light form of L. × Gouldiana.

Photographs received, with thanks. W. S. Next month.

O.O.W., D.W., with several others. Unavoidably postponed till next month.

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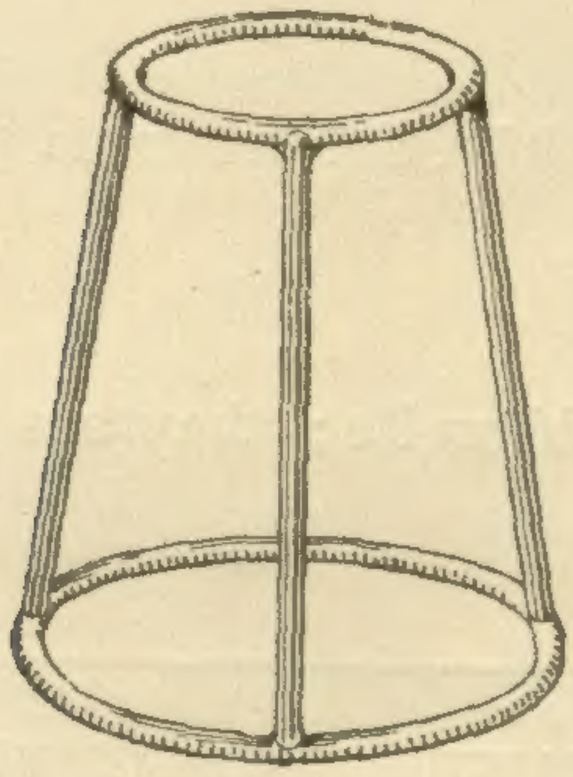

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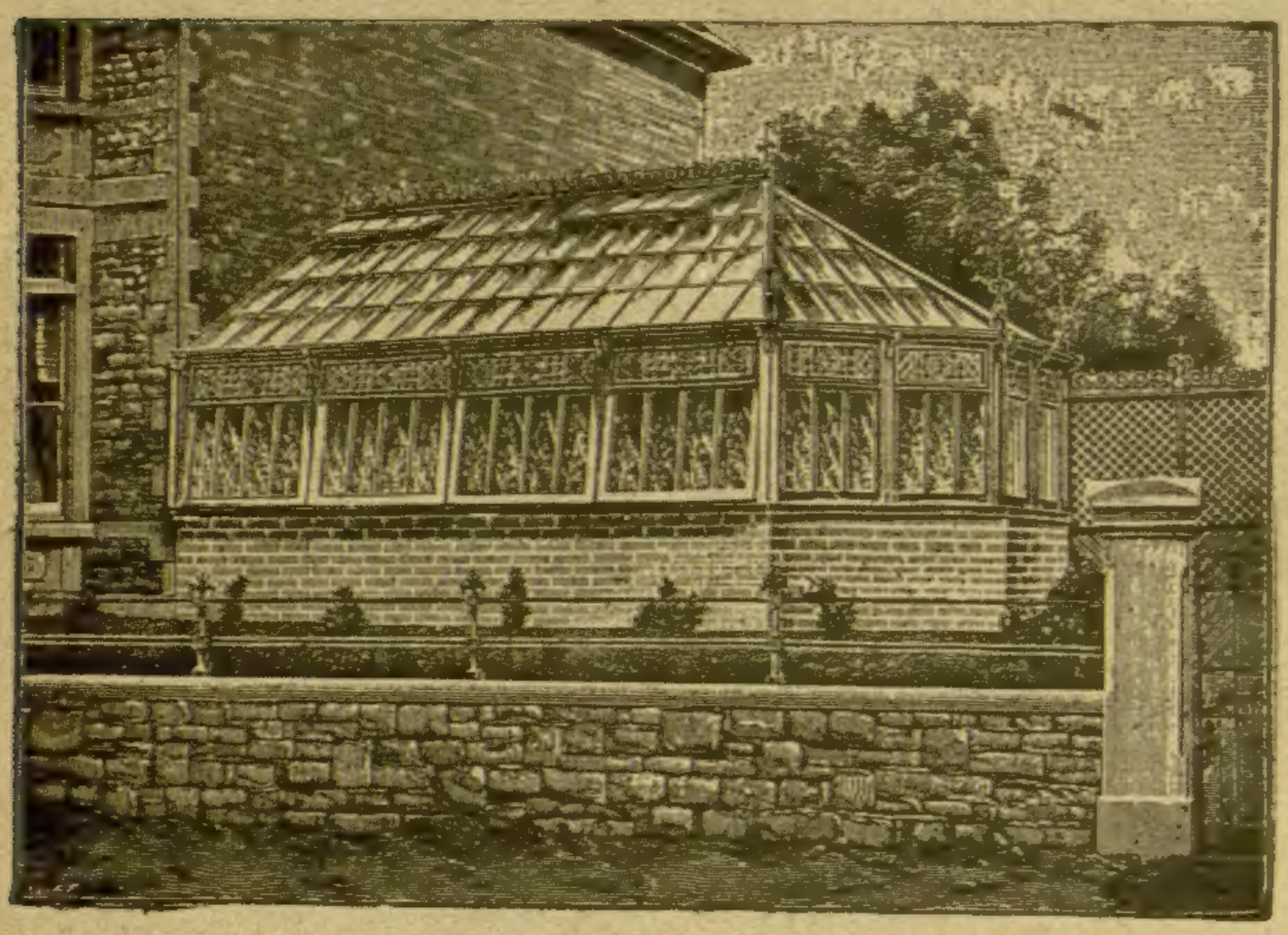

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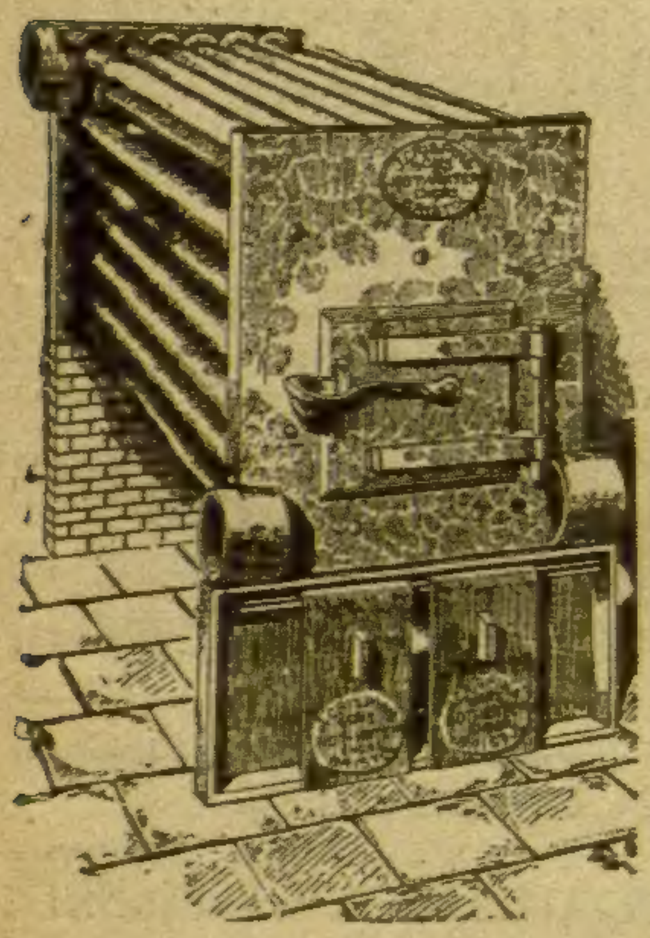

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